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POLITICS-AND BUSINESS.

THE near approach of the American presidental election—the date is November 3—does not tempt The India Rubber World to indulge in any forecast of the result, although we do not doubt our capacity as prophets equally with most of those who are doing business in this line. The fact is that the era has gone by when "the country" was "saved" or "lost" as the result of a national election. The same people stay on the same soil, occupied in the same pursuits; the laws remain practically the same even in the event of a complete change of party control, and back of all remain the same constitution and the same flag. What need, then, of a scare, when Americans start out to discharge the periodical obligation of designating a new occupant of the White House?

There is reason for discussing business conditions in America, however, regardless of political conditions at this time. The latter we may dismiss with the general statement that the 1908 campaign has been exceptionally brief, and that the contending parties in the contest have, so far as we have been able to see, outlined no issues. No matter who may be chosen president, he has no power to make or unmake the laws of the country, and the composition of the national legislature is changed slowly and conservatively.

But what about business? Just a year ago The India Rubber World was chronicling the decision of the leading rubber manufacturers to limit production for an indefinite period to the absolute demands of trade; in other words, to invest no money in making goods for "stocking up." We are of the opinion that the decision was wise. Suppose that a score of tire manufacturers, each maintaining a branch house in every important center between the Atlantic and Pacific, are each trying to make all the tires that the 150,000 American automobilists may require. Is it good business? Is stocking up the branch houses meeting a demand? Does the volume of manufacture involve a measure of profits?

Fortunately, we think, the bankers of the manufacturers we have reference to—and the same thing was true in other lines than tires—advised a curtailment of activity, with the result of a marked decrease, for a while, in the production of rubber goods. Likewise, less rubber used, and lower prices for rubber.

The lower prices for rubber are now ancient history, which is pretty good evidence that the rubber manufacturers have been obliged to get busy again, in order to meet a normal demand for goods which can be supplied no longer from store. All of this has happened in advance of the presidential election, for which reason we may indulge the suggestion that, no matter how the election may result on November 3, the victorious party cannot well claim credit for the revival of business that, undoubtedly, is now developing.

RUBBER PLANTING TO DATE.

THE International Rubber Exhibition held recently in London was, first of all, a notable demonstration of the success of rubber culture. It seems hardly longer ago than yesterday when intelligent business men were discussing such questions as whether rubber trees could be grown from planted seeds, whether cultivated trees would produce rubber, or whether the product of such trees could be obtained at a profit. Already these basic questions have been answered in the affirmative so effectively that conservative owners of capital now have more than a hundred millions of dollars invested in rubber culture, with the result that many hundreds of square miles of land have been covered permanently with forests of the most valuable rubber yielding species.

Simply as an achievement in creating forests, the work of the rubber planters already has proved one of the most notable results of human endeavor. But what has been accomplished is not merely interesting by reason of its novelty and its magnitude; the result promises to be of untold benefit to the world, besides yielding handsome profits to many of those whose capital has been invested in this work.

The amount of plantation rubber that has been marketed to date is well worth consideration. During

the first eight months of the current year no less than 2,618.652 pounds [=11421/2 metric tons] were shipped from Cevlon and the Malay States alone-of the highest priced rubber in the world's markets. This is at the rate of 1714 tons per year. Considered from one standpoint this is not a large figure. The world's approximate total production for the fiscal year 1907-08, according to one of the best authorities, was 66,-379 tons, compared with which the Ceylon and Malaya product would figure only about 21/2 per cent. It must be considered, however, how rapidly the plantation product has increased in volume, only 296 tons having come from the Far East in the first eight months of 1906, and practically nothing back of 1904. Its intrinsic value must also be taken into account, one ton of Cevlon rubber offsetting in the factory from 11/2 to 5 tons of other grades; its superior selling value is no less marked.

It might be pointed out that at the same rate of increase, the output of plantation rubber from the Far East in 1910 would amount to 10,000 tons. While we doubt that this result will be reached so soon, there can be no doubt that by the time the many millions of carefully cultivated young rubber trees already planted have come "into bearing," the product of plantations will easily rank first in the matter of quantity in any list of crude rubbers.

It is not to be understood, however, that the business of rubber planting involves no unsettled problems. About all that has been settled definitely is the affirmative answering of the three questions in the opening paragraph of this orticle. The success attained in the Far East has related mainly to the *Hevva* species, but the details have little bearing upon the culture of other rubber yielding species; they are not even conclusive with regard to Hevea in other regions.

Now to confine our attention to *Hevea* alone, and in Ceylon and Malaya, the questions remain to be considered: How should the ground be prepared for planting? How close to plant? Should the ground be kept clean while the seedlings are getting a start? Should "catch crops" be planted, and if so what? When to begin tapping? What method of tapping to adopt? What form in which to send the rubber to market? We have seen that, without the final settlement of any one of these questions, much plantation rubber has been produced and sold and put to use, and much of it at a profit to all concerned. Nevertheless, the questions here suggested, and many more, are deserving of careful consideration.

It is not too much to say that the future settled practice of national rubber culture remains to be defined, and that in all probability the scientific estate manager ten years hence may regard as exceedingly crude the best work in rubber production of the present year. Hence we look forward to having occasion to devote no little space to the subject of the further

development of rubber culture, not only in the regions where the greatest success has been attained thus far, but in other regions as well.

THE TAXICAB TRUST.

THOUGH one taxicab may not run far in its appointed sphere, taxicabs on a whole are doing much to make the whole world akin. In our news pages note is made of the listing on the Paris stock exchange of the shares of the leading company, to date, in supplying New Yorkers with a taxicab service, and already Parisian "bulls" and "bears" were trading in the shares of the leading London company in the same field It has come to the point, really, that the thrifty French investor may be interested, while he enjoys his newspaper and his morning coffee together, in learning whether it has been raining in New York. More rain, more taxicab passengers, more dividends for himself. For France is the home of the new service, and France has supplied not only the vehicles and appliances, but an important amount of capital in introducing the new conveniences elsewhere. French directors sit on the boards of the corporations which collect taxicab fares in New York as well as in London and most other important English cities.

If the politicians hear of this they may decide that they have another peg on which to hang an argument against "trusts," but this will avail little if the public should happen to vote the taxicab a good innovation—which they seem disposed to do. The truth is that the individual owner of a cab horse, working his own plant, cannot render so good a service, and at so small a cost, as the elaborately organized system of carrying passengers in cities everywhere, which is the basis of the new line of securities listed on the Paris bourse, to which reference has been made here. Doubtless the taxicab business will become less centralized in Paris in time, but that city deserves the credit for the innovation. But wherever the profits go, the rubber tire manufacturers may expect to benefit in whatever country the new vehicles are operated.

IF ANYBODY IS WORKING OVERTIME these days it must be the tire inventing class. They work even while they sleep, for surely they could not turn out during waking hours alone such a volume of contributions as they make to the patent office files. Besides, some of the specifications suggest "dreams"—mental activity after the midnight oil has ceased to burn. This is not recorded by way of criticism or complaint; the more the merrier for the looker on! But what reward has the inventor for such incessant effort? We have no idea that the motorists—the buyers of tires—ever hear of such strange things as they might if they had enough curiosity to read all the patent specifications. Can it be that the tire inventors have a grudge against the patent office examiners, which they seek to make felt by overwhelming the latter with work?

Not satisfied merely with making artificial rubber "equal to the best Pará," an English inventor, according to the newspapers, has gone so much farther as to make "a latex which could be coagulated into rubber." Whoever can produce a latex without the aid of nature ought not to find it difficult to produce latex yielding trees without waiting for seeds to germinate, and, what is more, trees that will yield latex in every climate, without regard to seasons. The artificial rubber inventor, when he comes to be really in earnest, knows no such word as impossibility.

A RECENT THEFT ON AN EXTENSIVE SCALE of motor tires is referred to in a local newspaper as having been carried out by burglars who didn't molest the cash or other valuables in the store. Which might justify the firm in claiming to make "good tires." Also, rubber surely is "going up" when it gets to be worth more than money.

THE USES FOR GUTTA-PERCHA TISSUE.

THE increasing number of uses to which gutta-percha tissue is being put is responsible for making this article quite important to the trade. When gutta-percha tissue was first made in the United States, something more than 50 years ago, it was manufactured exclusively for the use of hatters. By these it was used to stick the manufacturer's name plate or trade mark on the inside of the crown. The name plate was printed in silver or gold on the tissue, placed in the crown of the hat, a hot iron passed over it and it became inseparably a part of the felt. This use of gutta-percha tissue was for a long time the only important one to which it was put, although some hospitals used it for bandages and surgeons sometimes used it in dressing wounds where it was desirable to keep out the air. Except for these surgical uses it is commercially employed only as a cement for sticking cloth or for making it waterproof.

The archives of the Bishop Gutta-Percha Co. (New York) tell the story of the American demand. In his report to his stock-holders in about 1866 Mr. Bishop relates that since the end of the war the demand for gutta-percha for cables, for splints, and for other surgical purposes had decreased very rapidly, but that in order to keep his factory busy and at the same time make a good profit, he had undertaken to supply the hat-making trade with gutta-percha tissue, which was used for affixing labels. This, Mr. Bishop said, was keeping the factory fairly busy.

Since that time the adhesive qualities of gutta-percha tissue has brought it into many uses. The principal of these is the demand created by the tailors, who use large quantities of the tissue in finishing the bottoms of trousers. For this purpose the tissue is put up on spools in strips of from I inch to I1/2 inches in width, each spool containing 100 yards. Its use at the bottom of trousers prevents any stitching being necessary and therefore makes a much smoother finish. After the hem is turned up at the bottom of the leg a strip of gutta-percha tissue is placed between the two layers of the cloth, a hot iron is passed over it and the hem is cemented firmly and evenly. For this purpose the tailors use tissue that ranges from 6 to 8 square yards to the pound and is fully twice as heavy as the tissue used by the hatters. In some instances the tissue is also used in finishing the ends of sleeves, and in shaping coat collars. For the latter purpose, however, a stiffer material is generally needed.

Among the principal uses for which the tissue is used at present is the making of dress shields, and in covering corset steels. Dress shields are manufactured by placing a sheet of tissue, somewhat heavier than that used by the tailors and made of the pure gum, between two layers of cloth and cementing by the use of a hot iron. This makes a moisture proof shield, practically as light and pliable as the cloth itself. Large quantities are used in this manufacture. In the manufacture of corsets, steel stays are now generally used instead of whalebone. Guttapercha tissue is used in furnishing a waterproof covering for these so as to prevent rusting. In cheap corsets the tissue is simply attached by heat to the steel itself, giving it a moisture proof coating, but in the finer grades strips of muslin and tissue are cut to exactly cover both sides of the steel; these are folded around the steel with the tissue between the metal and the cloth and cemented by the application of heat so that "skinning" or slipping off is an impossibility.

Another considerable use to which gutta-percha tissue has been put in recent years, is in dressing and repairing furs. For this purpose the tissue is invaluable. It is backed by a piece of cloth and these are furnished in a variety of colors to match the skins upon which they are to be used. The edges to be fastened are brought together, the tissue side of the fabric placed next to the skin and the iron applied with the result, if the color is well matched, that the joint cannot be discovered from either side of the fur. Patches are applied in this way and skins are pieced together. The process is also the basis

of the manufacture of the cheap furs that are so plentiful in the market. These are made up from scraps and odds and ends that formerly were thrown away. By careful workmanship and the use of gutta-percha tissue jackets, muffs and boas are now made at an extremely low price that require very close scrutiny to be detected. Quantities are used for this purpose and the joints are practically unbreakable.

Speaking of the patching utility of the tissue, it might be pointed out that one big firm, Larkins & Co. (Buffalo, New York) uses from 400 to 500 pounds of tissue a month which it cuts up and sells in envelopes as "mending tissue" at 10 cents a package. This tissue is cut into strips 6 inches wide and one yard long, one strip to the package. The directions say that it will mend instantly any fabric from the finest to the coarsest weave, kid gloves, rubber goods, hats or shoes. For mending a rent or cut the edges are drawn together, on the under side is placed a strip of tissue large enough to cover the hole, this is backed with a piece of the cloth and the whole hermetically sealed by the application of heat. If it is a hole that is being patched a piece of paper is placed on the outside to absorb the surplus tissue. In this case the tissue will adhere to the paper rather than to the cloth, leaving upon the latter no evidence of its presence.

The tissue is also used by shoemakers for mending shoes with invisible patches and for cementing in the original manufacture of the shoes. For this purpose and for splicing leather belts the gutta-percha cement is more generally used than the tissue. In the belt splicing great success has been obtained. The two surfaces to be joined are covered with a coating of the cement which is mixed in some volatile solvent. After evaporation has dried out the solvent and left the leather covered with the cement the surfaces are pressed together between hot irons and the adhesion is so perfect that the splice can scarcely be detected and is as strong as any other portion of the belt.

High class printing establishments are using quite an amount of tissue recently for underlaying cuts. This is made thicker than the mending tissue, running only 4 or 5 square yards to the pound. Cuts are backed with the tissue when hot, and run through the press. The plastic condition of the gutta-percha builds the cut to exactly the right height and when cold this is rigid. This is principally used in magazine and fine book work. The government printing office at Washington uses quite a quantity of gutta-percha tissue tape, ½ inch wide, one sixty-fourth of an inch thick and wound on spools of 100 yards each.

Paper manufacturers also use the tissue to a considerable extent for fastening the ends of rolls. The ends of the rolls are lapped with a strip of tissue between and the passage between the rollers furnishes enough heat for a perfect fastening.

New uses for the tissue are constantly being devised and the sale of it is gradually increasing, although some of the original services to which it was put have been lessened by substitutes. This is notably the case with the hat labels, only the higher priced goods now using the tissue. There are enough services for it, however, to keep the makers active and the demand is steady.

An eight-day taxicab test has been arranged to take place in Paris this month. One object is to give an opportunity of more accurately controlling and combining the consumption of the various fuels employed.

The city of New York now owns, for the use of the various municipal departments, 102 automobiles. As mentioned in former India Rubber World, rumors were not lacking of the want of system in keeping the machines in order, and the absence of economy in the matter of repairs. According to *The Motor World*, however, a municipal garage has now been opened, under the charge of responsible employes of the city, all the city automobiles now being cared for in one place, and all repairs and supplies being obtained at a minimum cost.

GUAYULE IN THE UNITED STATES.

THE production of guayule rubber in Texas is the subject of a recent report made by the German consul in Galveston, from which we quote: "The experiments made with the production of rubber from the guayule plant have proved so successful that a corporation known as The Big Bend Manufacturing Co. has closed a contract with the state government of Texas, by which it has acquired the right to utilize the guayule plants growing on all the so called school lands which are at the present time still owned by the state. The guayule producing areas thus leased comprise millions of acres of land in western Texas. The territory in which the guayule plant thrives especially well, extends from Langtry, in Val Verde county, to Cerro Blanco in El Paso county, and comprises an area measuring 250 miles in length by 75 to 100 miles in width. The present term of the contract of lease is four years, and the amount paid the state for rental is \$61,000. In order to prevent the destruction of the species, a special provision has been incorporated in the contract prohibiting the cutting of plants before they have reached a certain age and attained a stated height."

Some details regarding the contract referred to in the German consular report appeared in The India Rubber World October 1, 1907 (page 21), including the provision of the act of the Texas legislature authorizing the contract, that no bid would be accepted from any party or a member of any trust, monopoly, or combination in restraint of trade. The act became effective on July 11, 1907, after a hasty passage, section 2 declaring the existence of such "an emergency and imperative public necessity that the constitutional rules requiring bills to be read on three days be suspended." Neither the act, however, nor the regulations for carrying it into effect, called for haste in the utilization of the guayule on the school lands, and it would not be surprising if the Texas supply controlled by the "Big Bend Manufacturing Co." should be held in reserve until richer fields in Mexico are exhausted.

ALL the guayule shrub in Texas is not on the school lands, however. The India Rubber World August I, 1907 (page 332), reported the incorporation of the Texas Rubber Co., for the purpose of extracting rubber from guayule, stating that it had already purchased all the guayule shrub in three large Texas counties. No report has been had of action by this company, and it is possible that nothing will be done while the interests in control are busy in developing work in Mexico, which was begun at an earlier date. Texas has thus far contributed no guayule rubber to the market.

It may be of some interest to note that the guayule shrub first became the subject of scientific attention in what is now United States territory. Texas was formerly a part of Mexico, and upon its annexation to the United States a formal establishment of the boundary line between the two countries became necessary. The "Report on United States and Mexican Boundary Survey" made on behalf of the former country by Major William H. Emory (Washington, 1859), in a series of sumptuous quarto volumes, embraces a number of scientific reports, that on Botany (Volume II) being the work of the afterward famous John Torrey. On page 86 the plant now known as "guayule" is described by Asa Gray, an assistant in the work and also destined to become famous, and by him given the designation Parthenium argentatum, which it has still retained. The specimen reported on was gathered "near Escondido creek, Texas [a region which the present writer cannot identify], in rocky places, September, 1852," by Dr. Bigelow. Gray does not appear to have observed that the shrub contained rubber. The report referred to lists as occurring in the same general region the

already named Parthenium icanum, H. B. K., a plant now known in Mexico as "mariola," and often mistaken for guayule, though of no value as a rubber producer. [See The India Rubber World. July 1. 1905—page 335.]

The later and more notable scientific work, "Biologia Centrali-Americana," embraces 4 quarto volumes on Botany edited by William Botting Hemsley (London, 1879-1881). Parthenium argentatum, Gray, is mentioned (Volume II, page 148) as occurring in Texas and in northern Mexico from San Luis to San Antonio. Referring to the specimen in the Kew herbarium it is said: "We are not certain whether this was collected within our limits," meaning south of the Rio Grande.

A LETTER from the United States department of agriculture (bureau of plant industry) to The India Rubber World says: "Representatives of this department have visited the section of Texas which was reported as having guayule, with a view to its exploitation, but they nowhere found it in sufficient quantities to warrant the attempt. The possibility of establishing a successful culture of this plant seems too remote to justify experiments."

LARGE ORDERS FOR ELECTRICAL PLANT.

THE General Electric Co. (Schenectady, New York), through their Brazilian agents, have secured a contract for the electrification of the Central Railway of Brazil, in the neighborhood of Rio de Janeiro, an important government enterprise. The system embraces 700 miles of track, 303 locomotives, and about 3,000 cars. The General Electric Co.'s contract will entitle them to sell light and power in Rio de Janeiro and Nichtheroy. The General Electric Co.'s agents have also been granted a concession covering the supply of light and power to the city of S00 Paulo, Brazil, a city of 300,000 inhabitants and the largest coffee market in the world.

Siemens-Schuckert Werke G. m. b. H., of Berlin, are reported to have secured, through their branch in Mexico City, the order for the machinery and installation of the hydro-electric works on the lake of Chapala, near Guadalajara. It is estimated that the total expenditure on the works will amount to about 15,000,000 marks [=\$3,357,000].

It was reported to the Coventry city council [says London Financial News, September 23] that the contract for electric light cable had been placed with a German firm, the reasons being that the prices obtained from English firms were time after time almost identical, and that there seemed to be an arrangement as to which of the home tenders was to get the Coventry contract. It was further stated that the cable was the same, whether obtained from abroad or from English makers; yet as copper went up enormously in price and had now fallen, manufacturers must be getting a very large "pull." The Council confirmed the action of the committee making the contract with the German company.

Allgemeine Elektricitäts Gesellshaft (the General Electric Co. of Berlin) were reported lately to have opened at Constantinople a special agency for the sale of their products.

VULCANINA.

A N Eastern contemporary, the name of which has been mislaid, contains the following from a correspondent: "It is stated in a Brazilian paper that a company has been organized for the exploitation of a Brazilian invention known as 'Vulcanina,' which is a preparation of rubber to be used for road paving and other purposes. It is further stated that the building in which the company will establish its offices has been acquired. In this connection I read in an account of the new premises of John Dewar & Son, Limited, in the Haymarket, London, that 'the floor of the main hall is laid with rubber tiles such as are now used in the best offices in America.'"

The India-Rubber Interest in the East.

By M. Kelway Bamber.

A T one of the sessions of the International Rubber Conference held in connection with the International Rubber and Allied Trades Exhibition, at Olympia, at which Sir Henry A. Blake, G. C. M. G., presided over a large audience, Mr. M. Kelway Bamber, representing the government of Ceylon, lectured on "The Cultivation and Preforation of Rubber in the East."

The lecturer reminded all interested in the industry that the more haste the less speed, and the cheapest and most rapidly grown and manufactured rubber was not necessarily going to prove the most profitable in the long run. Eastern planters and manufacturers had to produce rubber that would stand every commercial test, and they could not afford to run the risk of putting on the markets of the world an inferior article that would not stand tests of time and wear. Results had already shown that plantation rubber properly prepared from latex of mature trees was equal to the best Pará, and for certain purposes superior. But it was not invariably the case that the rubber was properly prepared, and therefore those concerned must neglect no chance of remedying errors, and profiting by the experience, which it was hoped would be largely gained from the present instructive Exhibition.

As regards soils, the rubber plant had a great power of adaptability, though rich alluvial soil suited it best. In Malaya, where the soil was most alluvial, the growth of Pará was very rapid when once the land had been drained, and a height of 12 to 14 feet and girth 4½ to 5 inches after a year's growth were common, and these dimensions were frequently exceeded. In all cases, however, the Pará evidently did best where the soil was rich in decomposed humus (not peat) and with a fairly high percentage of nitrogen.

In Ceylon most of the rubber was first planted on ravines on tea estates, and the shade of the tea bushes protected the soil from too much exposure to the sun. In Malaya in the same way rubber was planted with Liberian coffee, and the shade given by the latter's dense growth protected the soil from the sun.

The lecturer exhibited on the screen photographs of various

trees growing on estates in the East, and cultivated with and without catch crops, and also with various green manures, which he thought showed convincingly that clean weeding was not essential to procuring excellent growths of rubber. He did not, however, advocate allowing grasses to run riot, but rather a crop of such habit as could be kept under control. With regard to lalang grass which caused much trouble on many estates, he mentioned that the passion flower had been found to be efficacious in destroying this pest at small expense, and he ventured to think that the passion flower would ultimately prove the salvation of many estates that had not sufficient capital to warrant large expenditure otherwise required for eradicating the lalang. Much money had been uselessly expended in clean weeding.

There were several indegnous plants, such as Crotabaria mimosa and Desmodimus which could be grown in many instances in such a dense manner that it was impossible for any weeds to grow between them. All these plants which belonged to the Leguminiosæ, and greatly benefited soils and rubber by their growth. were under perfect control, and easily eradicated.

The alluvial flats of the Federated Malay States required an enormous amount of draining, costing large sums of money, and even then much water remained in the subsoils. Here the growth of a luxuriant green crop with a branching and deeproot system had the further important advantage of removing by evaporation through the leaves much of this sour subsoil water which was unfavorable to development of the rubber tap root on which the stability of the trees during the heavy winds largely depended. It has been clearly proved that the baking of the surface by the sun did not dry soil or subsoil so completely as did a growing leaf crop. But apart from these considerations there were other and more important ones of the question of humus, and the hygroscopic power of the soil by which the future flow of the latex would be influenced to a large extent. The growth of green crops in place of clean weeding has also long been advocated by Mr. Carruthers, the director of agriculture in the Federated Malay States, and it seemed that clean



SPIRAL TAPPING OF "HEVEA."



"CEARA" RUBBER TREE AND METHOD OF TAPPING, CEYLON.



"HEVEA" RUBBER IN GRASS.



"HEVEA" WITH GRASS AND SENSITIVE PLANTS.



"CROTATARIA" IN RUBBER.



"HEVEA" RUBBER IN SUGAR CANE. [In the Province of Wellesley.]



RUBBER AND CASSAVA IN THE MALAY STATES.



LARGEST GIRTHED RUBBER TREE IN CULTIVATION. | In the Botanical Garden at Singapore.]

weeding would soon be abandoned on many estates and become a thing of the past.

The lecturer alluded to the advantages often to be obtained by the cultivation of catch crops where the soil and other conditions were favorable. Mr. Bamber dealt very fully with the question of tapping, and after describing the methods in general use he referred to the basal V system as the cheapest and probably the best, both for economy of bark and for strength of latex. He especially emphasized the bearing which this method of tapping would have upon the labor question, but pointed out that the successful adoption of this would depend to some extent on soil conditions. He deprecated the tapping of trees too young, giving five or six years as a minimum age, and he insisted on the need of the greatest care both in field and factory to get pure latex and free from any mechanical mixture, and also on the necessity of economy of bark in tapping operations. A falling off of the percentage of caoutchouc to below the payable minimum indicated the need for resting the tree, and this was a point to which planters should give more attention. He compared Brazilian and Eastern methods of tapping to give a possible explanation of why Brazilian rubber had greater tensile strength which he ascribed to the greater maturity of the globules in the latex. With regard to renewal of bark, he pointed out that the bark had now been renewed two or three times, the yield from which was as great or even greater than from the original, thus showing the permanency of rubber production might, from this point of view, be reasonably assumed.

Reference made to the practice of Brazilian tappers who invariably make one or two gashes in the trees about 3 feet above the tapping area before they commence to tap, as they believe without these they could not obtain maximum crop. The idea underlying the practice was one which he thought might be commended to consideration of planters in the East. Proceeding next to deal with methods of manufacture, Mr. Bamber urged the need for obtaining uniformity in color and appearance. Pale rubber produced by the destruction of oxydase by heat was generally approved by manufacturers, and many German and other firms had declared that the demand for it would be practically unlimited if ample supplies could be relied upon to reach the market. The lecturer specially referred to the necessity of using only the purest water in the factories. Importance of not too rapidly drying rubber was borne out by the lecturer, whose views on this subject were more or less confirmed in subsequent discussion. Net results, he said, had been obtained from the quickly dried product which were far from satisfactory, and he expressed the belief that although it was impossible to say definitely what was the best method of drying, there was reason to believe that too rapid and complete drying would be found a serious mistake, and that they might be sacrificing some strength, elasticity and lasting power by the process.

Mr. Bamber mentioned also that Continental buyers seemed strongly in favor of rubber being exported in block from 1 inch to 1½ inches thick and about a foot square.

Note.—In connection with the preceding it may be of interest to read the correspondence in The India Rubber World, October 1, 1908 (page 44).—The Editor.

THE imperial German post office reports 135 wireless telegraph stations in that country. In Switzerland the authorities have spent \$32,500 within a year in wireless telegraphy experiments, with what they regard as satisfactory results.

The amount of rubber harvested by the Vallambrosa Rubber Co., Limited, for the six months ending September 30, 1908, was 114,304 pounds, against 103,908 pounds for the six months ending September 30, 1907, and 55,376 pounds for the same period in 1906. The Federated (Selangor) Rubber Co., Limited, harvested 15,785 pounds of rubber for the four months ended July 31, 1908, against 5,658 pounds for the same period last year.

RUBBER INTERESTS IN EUROPE.

THE New York-Hamburg India-Rubber Co., Limited, was registered in London July 15; capital £7,500 [=\$36,498.75]; to carry on the business of manufacturers and dealers in indiarubber and gutta-percha goods. This company will take care of the business in Great Britain of the New York-Hamburger Gummiwaaren-Compagnie, Actiengesellschaft, of Hamburg, established in 1871, and now capitalized at 2,001,000 marks [= \$476,238]. One of the directors of the Hamburg company-Fr. A. Döhner-is a director in the new London company. The Hamburg plant manufactures a full line of hard rubber goodsespecially combs and electrical appliances. It was an outgrowth of the India-Rubber Comb Co., of College Point, New York. Conrad Poppenhusen, the founder of the College Point enterprise, after returning to Germany, his native country, where he ended his life, was actively interested in the New York-Hamburg company.

GERMANY.

THE initial issue of *Die Gummi-Industrie*, which comes to us from Bramsche, near Osnabrück (to the west of Hanover), is an exceptionally good first number for a paper in any trade. It contains a good report of the London Rubber Exhibition, some technical articles of value, and comprehensive and world news and commercial departments. It comes from the publishing house of Wilhelm Brauer.

GREAT BRITAIN.

The London manager of the Home Rubber Co. (Trenton, New Jersey), is mentioned in *The India-Rubber Journal* as having disposed of no less than 43 tons of "N. B. O." packing within the past 14 months.

Mr. A. Stanley Morrison, one of the directors of the Leyland and Birmingham Rubber Co., Limited, was lately about to start on a visit to British North Borneo, where he and several of his friends have considerable investments in rubber planting.

RUBBER SUPPLIES AND PROSPECTS.

[FROM "THE TIMES OF CEYLON," AUGUST 29.] THE Brazilian rubber year ends with the 30th of June, and the latest New York India Rubber World [August 1, 1908 -page 356] contains a review and estimate of the future which will be closely read by many people in Ceylon. It is further testimony to the fact that Herea is the rubber to be reckoned with both from the superiority of the product and the permanency of the tree. As to the issue of the struggle between wild and plantation rubber, we take it that the American paper's view is the same as our own, viz., with the necessary fall in prices when large quantities of plantation rubber are produced some of the forests will have to be omitted, where the cost of collection is above the average, until prices rise again. This will prevent estates in the East being knocked out by over-production, but will subject them to market fluctuation in which, in rubber as in tea, there will be good, indifferent, and poor profit periods.

Fossilized Rubber Trees.—A correspondent of The India Rubber World sends in a suggestion of the possibility of rubber forests having flourished formerly in what is now North America, though without claiming for it any specific scientific warrant. He writes: "Scientists say that, centuries ago, the northern parts of the United States and Canada were the tropical centers of the Western Hemisphere, and if so, vegetation that now thrives in that zone must have grown luxuriantly in our north country. If this is so, the question arises: What became of the rubber trees that must have existed there?" Our correspondent offers a tentative suggestion by way of pointing out the similarity of the chemical analysis of some of the hydrocarbons now being found in North America, with the product of the Hevea and Castilloa rubber trees.

Some Synthetic Rubbers I Have Met.

By Henry C. Pearson.*

GREAT many years ago the whole scientific world, which was neither very large nor very scientific, spent a whole lot of time searching for the philosopher's stone, which, if I remember rightly, if properly approached, would turn most anything into gold. We laugh at such childish folly to-day, and spend our time hunting for a philosopher's stone which shall turn everything into rubber. The transmutation of colloids is the dream of the chemist as well as the experimenter. The only trouble is they don't transmute.

If he was correctly quoted, Professor Wyndham Dunstan, in September, 1906, went on record before the British Association that synthetic rubber would be an accomplished fact within the year. Exactly where it would break out he did not indicate, nor whether it would be characterized by mild or virulent symptoms.

I should like to say personally that my acquaintance with synthetic rubber of certain sorts dates back to many years. It goes without saying that when a man really discovers synthetic rubber, he is more or less secretive about the materials of which

the artificial gum is made; indeed that constantly growing class of discoverers, whom newspapers introduce to us from time to time, are the most secretive men I have ever met.

It was nearly 25 years ago that I was first brought into intimate contact with a gentleman who was apparently an honest, blunt, hard-working experimenter. who, in a private room behind locked doors, showed me a small sample of what appeared to be dry, fine Pará rubber. It gave out a faint odor of wintergreen, which he explained was added to it to destroy an odor that might lead some imitator to a knowledge of ingredients used in its manufacture. He assured me earnestly, calling up the Creator of real rubber to be his witness, that it was wholly an artificial product and contained no atom of caoutchouc; further than that, in a burst of confidence he agreed to let me see some of the materials of which the

product was made. With much secrecy we crossed the city, let ourselves into the basement of his house, which was part workshop and laboratory, where I was shown a gum which I partially identified as Kauri, and a grease which looked like cocoa butter. There was a faint smell of bisulphide of carbon in the air, and he acknowledged that he used this solvent at a certain stage of the process, and upon heating it and the addition of a secret material, rubber appeared floating upon the liquid.

While we were thus talking an eminent and somewhat grasping capitalist appeared, claimed he was there by appointment, which I did not believe then, but do now, and at once went into executive session with the inventor, leaving me on the outside. It was a bitter blow to thus have millions torn so rudely from my grasp, particularly as I had mentally already squandered several hundred thousand pounds. However, I was out and had to make the best of it. As for the gentleman who was in, just to complete the story, it might be well to add that he erected a spacious factory in which were strange machinery, secret rooms,

glass floors, and other unusual and expensive paraphernalia, and for a number of years paid, while the inventor toiled, until one day the building was closed and has remained so up to the present time.

From that day to this neither the capitalist nor the inventor could be induced to say a word about their experiments or why they failed. I fancy the reason the capitalist would not talk is because he lost a great deal of money through the venture; and the only reason the inventor doesn't talk is because he is dead. [In the bottle marked A is a sample of this type of synthetic rubber.]

One of the Presidents of the United States had a relative, who had a little money and was anxious to make more. He therefore intrusted some £8,000 of it into the hands of an apparently cultured gentlemanly, persuasive chemist, who had brought to him some 20 pounds of what appeared to be a high grade rubber, which the chemist, by the use of many technical terms wholly incomprehensible to the ordinary business man

assured him was an entirely synthetic production. The £8,000 went for the equipment of a little factory near New York city, the erection of a secret room, from which daylight was excluded and only a certain shade or red light was allowed to illumine, and incidentally some very excellent champagne suppers at New York's most expensive hostelries. It was just as the initial investment was about exhausted the matter was brought to my attention, and in this way.

With great secrecy a 10, 20 or 50 million dollar company was projected and all the machinery for selling much stock was quietly set in motion. One of the wealthy men approached had a lawyer who knew something about rubber and was very much of an investigator. He came to me first to size up the probabilities and to outline a method of investigation. The first move was to insist that the rubber be made in his pres-

ence. This was agreed to, but the inventor stipulated that no chemist be present. The lawyer was then given a list of ingredients which he was to purchase and carry to the factory. These amounted to about 20 pounds in weight. The inventor was to add one pound of secret material or composition necessary to complete the process and to protect the formula.

A day was then set for the test. When that day arrived the chemist was sick. Another day was set; the pound of material necessary for the experiment had gone astray. Another day was set; the chemist's grandmother had died and he had to attend the funeral. Finally the test was begun, the materials, consisting in part of cellulose, water and caustic soda, were set boiling and kept at it all day long. During this time the lawyer waited for the change in the cotton fiber to appear, when at a certain critical moment the composition must be added, or else no rubber would result

About supper time the inventor stated that the material could not be ready till about 11 o'clock that night, and suggested that the lawyer go out and get something to eat. The lawyer at first refused, but finally went, and although he was gone only 35 minutes, the critical moment came during his absence and rubber appeared.



HENRY C. PEARSON.

*Read before the International Rubber Conference at Olympia, London. The lecturer exhibited about 50 samples of alleged synthetic rubbers, substitutes, and rubber assistants, which the audience examined with much apparent interest.

The lawyer was very wrathful on his return, investigated the dark room where the final change took place, discovered a hidden panel leading to another room, and enough evidence of fraud to lead him to advise his client against risking a dollar in the venture, and the business went no further. The inventor, by the way, dropped rubber and took up synthetic camphor, and was supported by a leading firm of chemists for a couple of years, until they brought the matter before the law courts, and he is now supported by the United States government, not in luxury, however, and his habitat is very much localized. I don't know how true it is, but it is rumored that he will be released next year and plans to come to England and manufacture synthetic shillings. [The jar B is this type of synthetic rubber..]

There is at the present time in the United States a factory in a prosperous town, with a high fence around it, with guards in evidence night and day, where a little old man is at work trying to do on a commercial scale what he alleges to have done in the laboratory, and that is to produce synthetic rubber from certain oils. He has been at it some three years, and is backed by very heavy capitalists. Further than this, a very distinguished American chemist and physicist who is miles above any suspicion of either collusion or lack of knowledge, has possession of the formula, and under the inventor's guidance made the gum himself and says over his own signature that the product is real synthetic rubber. He said this some three years ago, and his verdict resulted in the erection of a factory and the attempt to get out a commercial product. Without cataloguing the many delays that have followed the erection of the factory, due to the lack of purity of material, the impossibility of getting certain machinery, unfortunate breakdowns, etc., I want to say that if this is real synthetic rubber the inventor has gone far beyond anything that synthesis has heretofore been able to accomplish; for he has reproduced absolutely up river fine Park not only in texture, color, compounding capacity and vulcanizing ability, but he has successfully imitated the peculiar smoky smell individual in that type of rubber.

It is to be hoped that when he manufactures all grades of crude rubber commercially, among them synthetic Africans, he may be induced to leave out the synthetic African smell. [In the jar marked C is the synthetic Pará of the smoky smell.]

I hope you don't think that the Yankees are the only ones who indulge in synthetic pipe dreams. In an English paper of September 4 I read that synthetic rubber is now being made at Burton-on-Trent, and is called Burton rubber. I have not seen it, nor do I know the chemist, who may be the most honest and capable man on the face of the earth. But if he can make synthetic rubber commercially, why does he seek newspaper publicity instead of making and selling his valuable product. If he found nuggets of gold in his back yard, would he write *The Times* pages of argument to prove they were really gold, or would he quietly dig them up and put them into circulation? Just what base he works from it is difficult to tell, but from his published formula, the compound would seem to be equal parts of Old Burton ale and offensive smell.

In the bottle marked B is what was given me as a sample of partially synthetic rubber made along lines which appeared to be new. As you all know, the latex of a young Castilloa tree contains a great deal more resin than the latex of an old tree, the gum in the young tree containing about 40 per cent., while that in a mature tree about 7 per cent.

The theory of the producer of this semi-synthetic rubber, was that the tree in maturing turned its own resins into rubber; that by the proper treatment of this resinous latex, the inventor could do just what nature did. I could not see at the time that he did it, and certainly the sample on exhibition does not prove his claim. When I first put it in the bottle it was very resilient but contained 40 per cent. of resin.

Of course you are all aware of Professor Tilden's experiments in Birmingham, where he succeeded in producing minute particles of india-rubber from terpenes. These results are of high scientific value, but it's a question if that knowledge will ever be of the slightest commercial value, because it is going to be easier and cheaper to produce rubber latex, bearing a large percentage of india-rubber, than to produce vegetable oils containing very minute quantities of india-rubber.

It is impossible to consider a subject like this without coming in touch with a great variety of substitutes for rubber that have been and still are in use to a certain degree in rubber manufacture. The rubber manufacturers know, of course, that none of these are in any way real substitutes for the crude gum. They can be used in connection with india-rubber and oftentimes add certain qualities to the compound that are of value, but there are very few places where they can be used alone in place of rubber. The most widely known of these are the oil substitutes which are so common that they need no explanation as regards their manufacture or use. There are also certain of the natural hydrocarbons such as mineral rubber, which are of definite use in adding certain quantities to many lines of rubber compounding.

There is just one word of caution that the honest producer of a rubber assistant should have or else he will deceive himself, and for a time deceive others. Suppose he is able to produce a fairly tough substitute that mixes well with rubber and is in no way harmful—indeed under test the vulcanized product containing his assistant is stronger than the same vulcanized product without it. He at once believes that he has a wonderful product, and perhaps he has, but he hasn't proved his case by such a test. In fairness to himself and the manufacturer, he should test not against a compound of pure gum and sulphur, but against compounds that contain earthy matter or metallic oxides that we all know add toughness to rubber compounds, and if his is better or cheaper it is of value, otherwise not.

It has occurred to me that in bringing some of my samples of rubber assistants here and calling your attention to them, it might stimulate an interchange of ideas, both on the subject of synthetic rubber and rubber substitutes, which will be much more valuable than a prolongation of this paper of mine. Frankly it's a subject I don't know much about, and even when I am in a room full of rubber experts, I don't feel a bit isolated by my ignorance.

Every industry has its trials, and every manufacturer could easily state his ideas of perfect bliss in the absence of such trials. I fancy the rubber man's Utopia would be—cold water vulcanization, no trade discounts, and the ability to produce synthetic rubber from sea water and air.

MANCHESTER AND BOSTON.

THE fact that Manchester is a larger consumer of rubber than any other town in Great Britain led to a recent suggestion that it was strange that Manchester had no spot market for rubber. The Manchester Guardian points out that in making this suggestion the important fact has been overlooked that near-by Liverpool is much better provided than Manchester with steamship services from the various rubber producing countries, and is therefore the most convenient entrepôt for all the different varieties.

The British situation here outlined is reflected in the United States, where Boston, the center of such an important section of the rubber industry, and the first American port to receive any crude rubber, is credited with only 1½ per cent. of the total imports of this material for the fiscal year 1906-07. There are other ports—notably New York—where better facilities now exist for transacting an important business in rubber.

THE American Hard Rubber Co. have taken over the tiling business carried on hitherto by The Gutta Percha and Fribber Manufacturing Co., and will manufacture goods in this Lie at their factory in College Point, New York.

The Late Theodore S. Bassett.

THE news will be heard with widespread regret of the death of Theodore Sheldon Bassett, which occurred on October 7, at his summer residence, at Fort Trumbull Beach, Milford, Connecticut, after a brief illness, in his sixty-ninth year. At the commencement of his last indisposition his friends looked for his early recovery, on account of the known excellence of his general health. The end came suddenly and quietly.

The subject of this sketch was the son of Sheldon Bassett, long identified with the industrial development of the Naugatuck valley in Connecticut, and who married Harriet Hull, a niece of the two brothers, Commodore Isaac Hull and General William Hull, who rendered such distinctive service during the War of 1812. Sheldon Bassett, shortly after the establishment of what is now the Birmingham Iron Foundry, at Derby, in 1836 became a member of the firm operating it. Upon the incorporation of the present stock company, in 1850, Mr. Bassett was elected

president, which position he held until

his death, fifteen years later. Theodore S. Bassett at an early age evinced an aptitude for business. As early as his sixteenth year he was employed in a manufacturing establishment in New York city conducted by an uncle. He was interested in the Robert N. Bassett Co., one of the oldest factories in Derby, making corset steels and the like. During the period of construction of the Union Pacific Railway Mr. Bassett established a rolling mill at Laramie, Wyoming, for the manufacture of a large quantity of the rails required, and he was present when the last spike was driven and travel was opened on that road. Thirty years ago Mr. Bassett became interested in the Birmingham Iron Foundry-the business with which his father had so long been connectedand at the time of his death filled the office of vice-president of the corpora-

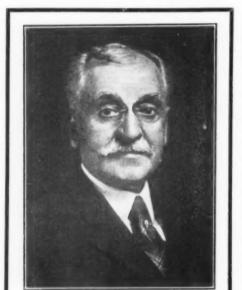
It was partially owing to the fact that the Birmingham concern engaged largely in the manufacture of equip-

ment for rubber factories that Mr. Bassett began, a number of years ago, to take a deep interest in the rubber industry. In 1889 he assisted in the establishment of a rubber reclaiming plant at Shelton (Derby), Connecticut, which business, conducted as a copartnership, in 1895 took the name U. S. Rubber Reclaiming Works. In June, 1900, the business was incorporated under this name under the laws of New Jersey; at the same time the reclaiming business of the Loewenthal Rubber Co. became associated with it. Mr. Bassett was elected president of the corporation, which position he held until the time of his death. The positions of vice-president and treasurer have been held during the same period by R. A. Loewenthal and Max Loewenthal, respectively, while lately a son of Mr. Bassett has been secretary. Meanwhile the company, now operating at Buffalo, New York, has grown to be the largest in its field.

In addition to the businesses named, Mr. Bassett was interested, as a shareholder or otherwise, in various other industrial enterprises. For many years he was a resident of Birmingham, serving for some years as treasurer of that city. He was also at one time postmaster there, under appointment by President Cleveland. He was a Scottish Rite Mason and a Knight Templar. Mr. Bassett was a member of the New England Rubber Club, and took a lively interest in its entertainments.

Mr. Bassett possessed a very great number of friends—friends who were steadfast and strongly attached to him. While gentle and kindly in disposition, he was firm in the maintenance of his standards of character and in his devotion to others. Throughout life his quiet, unostentatious benefactions lightened many burdens, without the knowledge of any except those who were aided. Mr. Bassett married Miss Caroline Wells, daughter of Harmon K. Wells, a New York merchant, who passed away on January 27, 1907, after forty-five years of devoted companionship. There were two sons—Theodore W., who survives his father, and Harmon S., who died in May, 1900.

Funeral services were held at the Second Congregational Church, at Derby, on the afternoon of October 10, and the interment was in the family plot in the cemetery at Derby.



THEODORE SHELLON BASSETT.

OBITUARY NOTES.

THE late Valentine B. Lang vicepresident of The Hartford Rubber Works Co., whose death was reported in The India Rubber World last month (page 46), at the age of 25 entered the employ of the West Shore Railroad as a machine shop foreman, under the late Charles H. Dale, whose connection with that road was mentioned in the sketch of the life of the latter which appeared recently in these pages. Mr. Lang continued successfully in the railroad field until Mr. Dale had become president of the Rubber Goods Manufacturing Co., and was looking for some one to superintend the erection of the new factory of the Morgan & Wright rubber company at Detroit. Mr. Lang was sent for at that time. after which he remained connected with the rubber interest.

S. N. Aldrich, president of the State National Bank of Boston, who died on September 27, was a brother of Edward I. Aldrich, selling agent

for the Hood Rubber Co., and long a member of the Boston School Board.

The death is reported, in *De Indische Mercuur*, of Samuel R. Stokvis, chairman of the board of R. S. Stokvis & Zonen, Limited, of Rotterdam. [See The India Rubber World, August 1, 1908—page 378.]

F. A. C. PERRINE.

Frederic A. C. Perrine, Ph.D., a well known authority on electrical science, died at his home in Plainfield, New Jersey, on October 20, of Bright's disease, at the age of 46. He was born at Freehold, N. J., and was graduated from Princeton University. He devoted some years to practical engineering, first as superintendent of the insulated wire department of the John A. Roebling's Sons Co., and later as consulting electrician of the Crescent Insulated Wire and Cable Co. (Trenton, N. J.). Dr. Perrine later became professor in electrical science at the Leland Stanford, Jr., University, in California, and afterward president of the Stanley Electric Co. (Pittsfield, Massachusetts). Latterly he was engaged as consulting engineer. He was an active member of the American Institute of Electrical Engineers, and the author of a number of works on electricity.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

N OW that the curtain has fallen on the Rubber Congress, as it may be called, no doubt the trade organs in English, French and German will have something to say on many of its aspects over and above the exhibits proper. Personally, I have no grievance to ventilate, though I have no doubt that

THE EXHIBITION AT OLYMPIA.

the India-Rubber Journal, in its spirited protest against the exclusion of its reporter from the conference room, is only

voicing the feelings of many of its readers. On a future occasion no doubt some official will be appointed to draw up a program of titles, dates, and hours in advance, so that men who cannot be in attendance all day for a fortnight can make arrangements to attend any lectures in which they are particularly interested. An interesting and useful feature of the Exhibition was the opportunity afforded the scientific workers, both chemical and botanical, from different countries, to become acquainted with one another. As regards the lectures, however, the language difficulty cropped up. It is one thing to address a few words of salutation to a foreigner, and another to follow a learned discourse in a foreign tongue clearly enough to be able to criticize it. Until the lecturer had got to work the audience never knew what tongue he was going to speak in, and it is hardly surprising that audiences which in many cases were not large at the commencement of the lecture, became still more attenuated during its delivery. It cannot be said that the rubber manufacturing industry of Great Britain did much by their exhibits or their presence to promote the success of the Exhibition, but it must be remembered that the trade as a whole is strongly conservative, and in the conduct of its affairs has always preferred the wooden shutter to the glass windows. Over and above the question of expense involved no doubt a feeling existed that there was a danger of giving away more than would be got in return, seeing that so many experts were coming from abroad. Personally, if I had an exhibit of goods, whether manufactured rubber, or to be used in the rubber manufacture, I should show some reserve in explaining their details and merits to perfect strangers. Exhibitors may, of course, claim that they know their own business and do not want outside advice, but were I an exhibitor of proprietary articles I think I should ask for my interlocutor's visiting card before describing to him in flowery language the particular merits and applications of my goods.

Turning now to raw rubber, with which the Exhibition was primarily concerned, one or two novelties call for attention. At the stand of David Bridge & Co., the rubber machinists, was the patent coagulating machine of Da Costa, by the use of which it is claimed that rubber equal in every respect to fine Pará can be produced from Castilloa latex. By a pictorial representation of the old smoking process for Pará in the forest, and of the new process in which fumigation is also employed, it is sought to convey the impression that the old has been superseded by the new. I didn't know how far this assumption is founded on fact, but so far I have been unable to get any corroborative evidence from our manufacturers of the claims made for Castilloa rubber coagulated by the new process. Of course the rubber may not have come under their close notice yet, and they may yet recall the expressed opinion that they do not believe in it. There was also a Ceará rubber on view, prepared by a new process, which made it equal to Pará; in this case, as well, some corroborative evidence from the factory seems desirable. I was told that it fetched a penny per pound more than fine Pará for such purposes as ground sheets, where its greater adhesiveness and greater capacity of taking up mineral had proved points in its favor. At the Netherlands stall I noticed a quantity of gutta-percha, the analysis of which was given as follows: Resin, 18.2; gutta, 76.2; water and dirt, 5.6. This was obtained by tapping trees in Java, presumably from plantations, and it is of importance in showing that not only can gutta trees be cultivated, but that the product can be obtained of excellent quality without the wasteful procedure of felling the tree.

It was with much regret that I noticed in the papers the death of Mr. John Pollitt, at Warsaw, from cholera, contracted at St.

OBITUARY.

Petersburg. Mr. Pollitt was senior representative of the Irwell and Eastern Rubber Manufacturing Co., Limited, of the which firm he had been associated for

Salford, Manchester, with which firm he had been associated for about 20 years, and his presence in St. Petersburg was due to a business tour he had undertaken in Russia.

In the various districts in the south of England, including London suburbs, where broken flints are largely used as road-

GOLOSHES AND FLINT ROADS. mending material, complaints are rife as to the damage done to goloshes. I was shown the other day a pair of quite

new rubbers bearing the inscription "Boston Rubber Shoe Co.," which had been cut on the sole as to let in water freely, and it was suggested that I should write something on the subject. The destruction caused by broken flints is by no means confined to goloshes, as wearers of leather boots will testify, but naturally the results are more disastrous in the case of rubber. Seeing that goloshes are being increasingly used in England, especially by ladies who are not particular to a penny or two about the price, I would suggest to those primarily concerned that a brand with a harder sole should be put on the market, as being especially adapted for use on flinty roads. The flints, it should be mentioned, are put on the footway as well as on the road, and in an important London suburb it is a common thing to see pedestrians using the road instead of the sidewalk. I believe that a golosh with a heel shod with vulcanite has been proposed by C. M. Berry of the United States, and the idea might possibly be extended to the sole.

THE Jubilee Exhibition of the Chamber of Commerce at Prague, the capital of Bohemia, must be pronounced a very good one,

NOTES FROM BOHEMIA. and it is somewhat surprising that the manufacturing exhibits have not received more notice in the foreign press. The

racial conflict between the Slavs and the Germans may have had something to do with this, to judge by what I gleaned in conversation with German merchants. For those who do not understand Bohemian (Czechish) it is somewhat disconcerting to find the universality of this language in Prague, and the Exhibition formed no exception, very few of the exhibits being described in German as well as Czech. With regard to the rubber trade I have hardly anything to notice, the few manufacturers, as far as I could discover, not having any special exhibits. I looked in vain for the Prager Gummi-Werk of Vysocan, and the most complete show of rubber goods which met my eye was that of J. Maendl, the agent in Prague for the United Berlin-Frankfort India-Rubber Co. In the September issue of The India RUBBER WORLD the mysteries of the Russian language in respect to the designation of rubber works are explained; so I am emboldened to give an example from the Czech language which has this advantage over Russian that Latin and not Cyrillic characters are used. An exhibit in one of the stands was marked "Pryzové a Asbestové Rukavice" (Gummi and Asbestos Handschuh), or, in English, rubber and asbestos gloves. Vulcanized

fiber was prominent in the large exhibit of Franz Lukeschi, of Prague, and balata belting caught the eye in more than one direction. To leave Prague and glance at one or two other places visited, I may say that in the metal mining districts the applications of rubber in the form of conveying belts, vanner belts, etc., were noticeably absent. Despite the continuous wet weather at Marienbad, very few mackintoshes were to be seen, though goloshes were offered for sale in several establishments. An attempt to examine the tires on the fine motor car belonging to King Edward proved abortive, owing to the activity of the local police. At Carlsbad plenty of mackintoshes were to be seen, but these formed part of the regulation costume of the girl attendants at the Spendel and other springs, the water of which rises with considerable force and at a temperature not much below the boiling point. As any attempt at a closer examination might have been misunderstood and resented, I can only say that they resembled the ordinary white coachman's mackintosh with cape.

In the course of my wanderings I fell in with Herr Albert Schäfer, Austrian representative of the firm of B. Polack of Waltershausen (Thuringen), as well known in the motor tire world. in England as well as on the Continent. The fact that for more than a week I did not see a motor car and altogether very few, shows that I was mostly off the recognized routes, and it must have been merely coincidence that I specially noticed tires bearing lettering "Goodrich, Akron."

JUDGING from the annual meeting held in September, this company is still a long way from realizing the success predicted in the

THE LIBERIAN RUBBER CORPORATION. prospectus. Sir Raymond West, K.C.I.E., who presided at the meeting, told his hearers that the main thing necessary

in this case was a return to normal rubber prices. I am rather curious to know what is considered the normal prices for any brand of rubber, and very much doubt if the term can be used in connection with a raw material which fluctuates in price according to supply and demand. No doubt producers look back with envy to the higher prices which have obtained, but there is no reason to doubt them normal any more than abnormal.

In my notice of this Exhibition a few months ago, I mentioned that Reddaway's pavilion was only in process of erection. Re-

THE FRANCO-BRITISH EXHIBITION. cently I had an opportunity of visiting it and, speaking only of its contents, I was particularly struck with the dis-

play of rubber goods intended specially for mining. As regards conveyor belts, the firm can testify to the wearing capacity of rubber both for coal and metallic ore belts of their make, having been in use for many years at prominent mines. A model conveyor plant formed an interesting part of the exhibit, and was certainly of greater novelty than the coils of belting with the manufacture of which the firm of Reddaway & Co. have been so long associated. I was also shown the wide belts used on Frue vanners, though I was previously under the impression that such belts were only made in Great Britain, north of the Tweed. Most of those which have come under my notice in England were of American origin, but judging from what was told me of the wearing capacity of the Manchester made belt, England should be able to supply her own needs in this respect with advantage.

One other pavilion not open on my previous visit was that of the West African crown colonies. About the samples of raw rubber shown there is nothing that calls for special mention, but I noticed in the statistics given for Southern Nigeria, that the value of the rubber exports had fallen from £307,077 in 1906, to £153,914 in 1907. For the Gold Coast the figure was practically the same for each year. Now with regard to Nigerian rubber, it has been noticeable for some time at Liverpool that the quality has deteriorated, and the sticky blocks which have been offered have changed hands with some difficulty at prices which

can hardly be considered satisfactory by the sellers. Presuming that the rubber is available in sufficient quantity, as also the collectors, it seems that some energetic action is required to preserve the Nigerian rubber industry from decay. There may, of course, be reasons for the decline mentioned which may have already ceased to be effective, but this does not affect the statement as to the deterioration in quality and the consequent decreased demand. If the increased use of plantation rubber was the cause of the lessened demand one would expect to see the Gold Coast exports affected also, though I do not pretend to speak with authority on a point of such intricacy.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

O FFICIAL statements of values of exports of manufactures of india-rubber and gutta-percha for the month of August, 1908, and for the first eight months of five calendar years:

| Months. August, 1908 January to July | | Boots and Shoes. \$270,751 656,333 | All Other Rubber. \$251,229 2,120,145 | Total. \$621,238 3,490,603 |
|--------------------------------------|-------------|--|---|----------------------------------|
| Total | \$813.383 | \$927,084 | \$2,371,374 | \$4,111,841 |
| Total, 1907 | | 908,440 | 2,702,777 | 4,531,932 |
| Total, 1906 | 800,245 | 788,966 | 2,094,098 | 3,683,300 |
| | 755,988 | 767,775 | 1,918,481 | 3,442,244 |
| Total, 1904 | 570,972 | 651,392 | 1,600,574 | 2,822,938 |
| 1 | IMPORTS INT | O MEXICO | | |

Owing to the system of classification in vogue in the Mexican customs service it is not easy to determine the amount of rubber goods imported. Under two headings, however, the details are definitely stated, and below are given the figures for the fiscal year ending June 30, 1907, and the corresponding totals for 1896-97—ten years previously (values in Mexican silver):

| Belting. | Hose |
|---|---|
| United States \$257,252.88 Great Britain \$3,028.38 Germany 28,369.64 France 14,616.60 Belgium 1,740.00 | United States\$217,158.70 Germany 25,662.05 Great Britain 11,133.83 France 587.00 Austria-Hungary 104.00 Switzerland 44.00 |
| Total\$385,007.50 Total, 1896-97 186,292.00 | Total\$254,689.58 |

From the extent of mining operations in Mexico it is evident that the importations of rubber packing are important. The imports of rubber footwear are not important. Elastic webbing and tissues, however, are taken in large quantities; and tires and dental dam also are embraced in the imports.

"RUBBER HEELS BAD FOR THIEVES."

UNDER conviction for the larceny of rubber heels, valued at \$150, from the Plymouth Rubber Co. (Stoughton, Massachusetts), James Chase, aged 68, was sentenced for one year to the Dedham house of correction. It was not charged that Chase had been a thief before, and burglary was not alleged, so that he does not appear to belong to the same class with the unfortunates whose experience with rubber heels was recorded in The India Rubber World, October 1, 1908 (page 28). The late news has the same bearing, however, in indicating that rubber heels seem not to be desirable articles for thieves to deal with.

Somebody sends to this office the suggestion that some "rubber heels" would be "bad for thieves" from a point of view not yet mentioned. That is to say, if thieves were to break into some stores and carry away the so-called rubber heels carried in stock, the quality would be found to be such as to afford them little reward for their trouble.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

SALES departments of local rubber companies report excellent business during the last month. All say that September sales were unusually satisfactory and that there is prospect for unprecedented trade during 1909. Secretary Carkhuff, of the Firestone company, in speaking of the trend of business, said: "I hesitate to say this, because it sounds so much like the conventional optimistic statement that has been expressed by business men recently, but it is a fact that our business, especially in carriage tires, as well as in the pneumatic line, has been picking up decidedly in comparison to last year, and there are indications for a larger business in 1909."

Local rubber manufacturers generally note a decided increase in the demand for mechanical rubber goods. Said an official of The B. F. Goodrich Co.: "The mechanical line has been picking up during the last six weeks. Previous to that period it had been slow since the business depression set in. Business in the tire line recovered quickly and now large orders for such goods as hose, belting, packing and molded goods are coming in so rapidly that a night force has been started in several departments to increase the rapidity of the output. Dealers are coming to the point where they positively need the goods, or else confidence has been so much restored that they think they can afford to buy and buy heavily."

The B. F. Goodrich Co. are establishing four new branch houses—in Kansas City, Minneapolis, Pittsburgh and Atlanta. They were decided upon in the middle of October and will be opened at once. The additional branches were called for by the increase in demand for automobile tires in those sections. At present these four are tire branches, but it is intended to have them handle the complete line of the company's products at a later date. The Goodrich company now have a total of 18 branch houses.

The Diamond Rubber Co. have plans completed for the construction of two factory buildings on land recently purchased on Jackson street, adjoining the plant on the south. Each building will be 300 x 100 feet, one four stories high and the other one story. The lower building will be started at once and the other will be built in the spring. An overhead bridge has been constructed to connect the present part of the factory with the new buildings across the street. An official said that the new buildings will be used for general factory purposes. Their construction was made necessary by the increase in the automobile tire business.

The Firestone Tire and Rubber Co. have purchased the plant of the Globe Foundry and Machine Co., adjoining the rubber factory. The property embraces several buildings and five large lots. S. G. Carkhuff, secretary of the company, says that the property will be used as the site of a large factory building to be put up in the spring. Its dimensions, he says, have not yet been decided upon, but it will exceed in size the building now under construction, which was announced in the last issue of The India Rubber World. This structure will be 125 x 50 feet, and four stories high.

At the annual stockholders' meeting of The Diamond Rubber Co., held on October 20, the following directors were elected for the ensuing year: C. A. Lake, Chicago; O. C. Barber, Akron; F. A. Hardy, Chicago; A. H. Marks, Akron; W. B. Miller, Akron; and O. S. Hart, Akron. E. K. Hardy, Akron, who is now touring Europe, resigned, and O. S. Hart, cashier of the company, was elected to fill the vacancy. The directors met in the afternoon of the same day and re-elected the following of-

ficers: Francis A. Hardy, president; A. H. Marks, vice-president; W. B. Miller, secretary; and A. H. Noah, treasurer. The directors declared a 10 per cent dividend.

H. S. Firestone, president of the Firestone Tire and Rubber Co., is making a six weeks' tour through the West, visiting the Firestone branches and agencies and inspecting business conditions generally. He is expected to return in the middle of November. The trip is much in the nature of a well-deserved vacation for Mr. Firestone. During his absence, Mr. Carkhuff is the executive head of the offices

In automobile racing and reliability events, the importance of the rubber tire as a factor in the contest is beginning to receive increased attention. In the thousand mile reliability contest conducted by the Chicago Motor Club, what probably was the first trophy ever offered to manufacturers of rubber tires was donated by C. P. Kimball & Co., auto body makers of Chicago. The cup was awarded to the competing company whose tires should receive the smallest number of points of penalization. In this case the successful contesting company was The Diamond Rubber Co. In order to be eligible, it was necessary for a company to be represented by at least two sets of tires.

In this connection the cups awarded by the Firestone Tire and Rubber Co. to Robertson and Florida, drivers in the Fairmount Park races, might be mentioned. The Firestone company presented the trophies to the drivers of the Locomobile cars as an appreciation of their success in handling their tires. Medals were also given to the mechanics of the two drivers.

THE Akron tire companies, especially those making a specialty of racing tires, were represented at the Vanderbilt Cup race, on Long Island. The Goodrich and Firestone companies sent prominent officials. The Diamond Rubber Company, having six of the nine American cars equipped with their tires, were represented by C. B. Myers, W. B. Miller, A. H. Marks, J. D. Tew and J. A. Braden. Akron companies were also well represented at the Chicago show of the Carriage Builders' National Association.

The Diamond Rubber Co.'s branch in Detroit was moved into the Cadillac building, on Jefferson avenue, during October. The new location affords double the space and better facilities than the old one.

Mr. Ernest E. Buckleton, manager of the Northwestern Rubber Co., Limited, of Liverpool, was in Akron on business for a short time about October 20. He has since returned to England.

Mr. A. H. Noah, treasurer of the Diamond Rubber Co., is preparing to build a palatial home on the Country Club road, west of Akron.

It is recorded of a certain packing manufacturer in the United States that, during the first year of the business he offered a rubber supply house a one-third interest for \$1,500, but the business did not appear attractive. The profits for the first year amounted to \$53,000, however, and they have not been smaller in any succeeding year.

A CERTAIN COMPANY ARE REPORTED in our news columns to have lost only \$35,641.25 1/6 by last year's trading, although they produced leaf gutta-percha, motor car tires, and quinine bark, and planted rubber and gutta-percha. We have known concerns to lose more money in a year through carrying on a single line of business. Really, considering the number of "irons in the fire," the company under review have reason for self congratulation.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED SEPTEMBER 1, 1908.

O. 897,309. Vulcanizing mandrel for rubber hose. S. J. Sill, signor of one-half to H. H. Hewitt, both of Buffalo, N. Y. 897,339. Automatic machine for the state of the state 897,339. Automatic machine for winding fire hose pipe and analogous tubing. E. D. C. Bayne and L. A. Subers, Cleveland, Ohio. 897,382. Braiding machine. J. son Cordage Works, Boston. J. Lundgren, Philadelphia, assignor to Sam-

897,395. Hose nozzle cart. E. J. Petru and J. Zidek, Chicago. 897,472. Jar for storage batteries. J. Marx, Buffalo, N. Y.

Detachable rim [for vehicle wheels]. R. Kronenberg, Ohligs,

897,701. Detachable rim for vehicle wheel tires. E. A. Baker, assignor to Rapid Removable Rim Co., all of New York city.

897,726. Vehicle tire. [Pneumatic]. J. L. G. Dykes, Milford, Ill.

897,758. Process for manufacturing indurated fiber. I. W. Marshall, assignor of one-half to T. E. Marshall, both of Yorklyn, Del.

897,811. Automatic pneumatic tire inflater [for use on automobiles]. R. C. Barrie, Philadelphia.

897,841. Tire tool. G. Mohme and A. V. Hadlock, Chicago.
897,860. Rubber tread [for boot heels, with metallic plate imbedded].
W. E. Herbst, Hartford, Conn.

ISSUED SEPTEMBER 8, 1908.

897,880. Wheel tire [with specially constructed feely, and flexible tread]. J. S. Cushing, Norwood, Mass.

897.881. Elastic wheel [with sliding spokes and flexible tread]. A. Dauvergne, Lyons, France.
897.920. Cushion for boots and shoes [of sponge rubber]. F. P. McIntyre, Philadelphia.

897,932. Tire plug. R. Sampson, Montreal, Quebec, Canada.

898,017. Hose coupling. W. B. Steen, Millcreek township, Pa 898,017. Hose coupling. W. B. Steen, Millcreek township, Pa.
898,057. Wheel [with penumatic tire and means for retaining the same].
J. W. Maixell, Lewisburg, Pa.
898,190. Hose and pipe coupling. W. Eisemann. Ford City, Mich.
898,280. Vehicle wheel [with solid rubber tire in "twin" form.] I. Snell, Little Falls, N. Y.
898,400. Elastic vehicle tire. W. Brameld, assignor of one-tenth to J. T. Jordan, both of Paterson, N. J.

Trade Marks.

35,65a. The New Jersey Asbestos Co., Camden, N. J. The words "Dagger" in a diamond-shaped design. For asbestos packing.

35,672. Regal Shoe Co., Boston. The word Regal. For rubber boots and

35,833. Woven Steel Hose and Rubber Co., Trenton, N. J. The word "Herald." For packings of rubber and other materials.

ISSUED SEPTEMBER 15, 1908.

898,497. Automobile tire. [Solid rubber, retained by a split rim.] W. Muller, Philadelphia.

868,541. Packing for piston valves and pistons. J. T. Wilson, Jersey Shore, Pa.

898,617. Packing for pistons and piston valves. J. T. Wilson, Jersey Shore, Pa. 898,714. Anchoring and tension device for tire protectors. S. C. Wolfe, Angola, Ind.

898,759. Hose nozzle. J. H. Melavin, Cambridge, Mass.

898,832. Elastic tire for wheels. F. J. Chary, Paris, France.
898,850. Pneumatic tire. W. Drury, Swansea, Wales, England.
898,907. Tire for vehicle wheels. T. J. Mell, Youngstown, Ohio, assignor to The Republic Rubber Co.

Trade Marks.

35,845. Hood Rubber Co., Boston. The word Oldcolon. For rubber boots and shoes.

ISSUED SEPTEMBER 22, 1908.

899,061. Vehicle tire. [Reinforcing cable of metal and textile strands.] R. M. Merriman, Youngstown, Ohio.

899,092. Woven hose. C. Alvord, Worcester, Mass., assignor to Fabric Fire Hose Co., New York city. 899,126. Spare tire holder. L. J. L. Snow, both of Boston. L. P. McKinney, assignor of one-half to

899,331. Wheel for vehicles. W. H. Scrymgour, London, England.

899,332. Spring wheel for vehicles. Same,

Vehicle wheel. [Pneumatic.] I. C. Scudder, New York city. 899,333. 899,425. Resilient wheel. J. E. McQuilkin, Westmoreland county, Pa.

39.575. T. J. Mell, Youngstown, Ohio, assignor to The Republic Rubber Co. Ornamental design for a wheel tire.

Trade Marks.

9,043. E. C. Atkins & Co., Indianapolis, Ind. The word Cop. For rubber beltings, machinery and packings.
4,044. E. C. Atkins & Co., Indianapolis, Ind. The word Foe. For rubber beltings, machinery, and packings.

35,669. National Shoemakers, Lewiston, Me. The word Passion, for cloth, rubber and leather shoes.

35,670. National Shoemakers, Lewiston, Me. The word Navigator. For cloth, rubber and leather shoes.

36,291. New Jersey Car Spring and Rubber Co., Jersey City, N. J. The word Gladiator. For machinery belting.

ISSUED SEPTEMBER 29, 1908.

899,620. Tire inflater for automobiles. P. J. Ross, Trevor, Wis.; D. C. Ross, Rydner, N. D., administrator of said P. J. Ross, deceased. 899,638. Spring wheel. H. E. Heaton, Oroville, Cal.

899,699. Wheel for vehicles [Cushion wheel, with rubber tread.] W. D. McNaull, Toledo, Ohio.

899,741. Belt tightener. F. L. Lane and B. D. Stevens, assignors to The Berlin Machine Works, all of Beloit, Wis.
899,876. Automobile wheel. J. Laus, Jr., Oshkosh, Wis.
899,934. Wheel [with elastic tire]. G. Wolke, Jacksonville, Ill.

Trade Marks.

33,230. Marshall-Wells Hardware Co., Duluth, Minn. The word Zenith and the initials M. W. H. Co., within a ring and under a star. For mechanical rubber goods.

35,125. American Circular Loom Co., Boston. The representation of a coil of flexible electric conduit. For such conduits.

35,423. E. C. Atkins & Co., Indianapolis, Ind. The word Tar. For rubber belting, packing and hose.

[Note.—Printed copies of specifications of United States patents may be obtained from The India Rubber World office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, SEPTEMBER 2, 1908.] 10,800 (1907). Felloe and rim for pneumatic tires. F. F. Mote, Cheable, Cheshire, and another.

10,814 (1907). Screw attachment for heel pads. F. H. Barker and Wilbar Mfg. Co., Manchester.
10,840 (1907). Golf tee. G. H. Bartlett, Norwich.
10,846 (1907). Supplementary rollers to prevent side slip in motor vehicles. E. Martin, London.

10,848 (1907). Treatment of rubbe: latex. D. Sandmann, Berlin, Germany.

69 (1907). Rubber tired wheel rendered more resilient by laminated springs between inner and outer rims. M. W. Peck, London. 10,870 (1907). Wheel with two rims side by side for rubber tires. P. E. Doolittle, Toronto, Canada.

50 (1907). Pneumatic tire with angular projections enclosing air pockets in a tread surface for preventing side slip. Eleazar Kempshall, London.

yrı (1907). Shades for motor car wheels to serve as dust guards and to protect the tires from the sun's heat. H. M. L. Crouan, Asnierès (Seine), France.

10,977 (1907). Material for tire treads composed of fiber and textiles, incorporated with rubber and vulcanized. S. Z. de Ferranti, Grindlencorporated with

ta,866 (1907). Felloe and rim for pneumatic tires. T. Dunn, London. 11,118 (1907). Tire casing built up with outer plies of fabric at a greater tension than the inner one. G. Graham and W. Drury, London. 11,126 (1907). Side wire solid tire. J. A. Swinehart, Akron, Ohio.

*11,150 (1907). Braiding machine with mandrel preferably endless and of flexible rubber tubing. A. J. Boult, London. (G. H. Blakesley, Bristol, Connecticut.)

Connecticut.)

11,190 (1907). Tire comprising an ordinary rubber cover enclosing a rubber cushion formed with projections entering the outer ends of helical springs. W. Stobbs, Newcastle-upon-Tyne.

11,238 (1907). Spring wheel in which the tread comprises two or more inextensible hoops within a tubular rubber casing. A. L. Carbone, Berlin, Germany.

[ABSTRACTED IN THE ILLUSTRATEED OFFICIAL JOURNAL, SEPTEMBER 9, 1908.] 11,355 (1907). Leather puncture preventing band to fit between the air tube and cover of tires. J. Cox, Tutbury, Staffordshire.
11,394 (1907). Hose coupling. W. E. Kimber, Johannesburg, Transvaal.

11,399 (1907). Pneumatic tire carrying rim with detachable side flange. R. E. Jeffery, Piedmont, California.

11,613 (1907). Pneumatic tire in which the air tubes and cover are formed in sections each secured to corresponding sections of a false rim, and the latter to a wheel rim proper. H. Marche, Fourmies

(11,636 (1997). Pneumatic or solid tires having metal casing embedded into the tread. C. F. C. Morris and T. K. Z. Coburn, London. 11,675 (1907). Pneumatic tire with puncture preventing band of overlapping steel plates between the air tube and cover. F. Brooke, G. Brooke, and T. Brooke, Wakefield, Yorkshire.

11,690 (1907). Spring wheel with pneumatic tire. J. Fletcher, Churchtown, Lancashire.

11,702 (1907). Solid tire held in channel rims by compression. J. A. Grant and V. E. Grant, Liverpool.

The International Rubber Exhibition.

THE EXHIBITION SUMMED UP.

NE of the most pleasant and interesting of the social features of the International Rubber and Allied Trades Exhibition was the banquet at Pillar Hall, Olympia, on Thursday evening, September 24, at which Sir Henry Arthur Blake, G.C.M.G., president of the Exhibition, took the chair. There were more than a hundred guests, representative of the planting, crude rubber, and manufacturing interests, government commissioners, and members of the press—from Great Britain and the Continent, the Dutch and British East Indies, North and South America, and the West Indies.

The Editor of THE INDIA RUBBER WORLD, in responding to the toast "The Press," concluded his remarks with the following in regard to the Rubber Exhibition and its influence:

"I have already told you at other gatherings how the great exhibits, particularly those of Ceylon, Malay States, British West Indies, and Brazil have interested me. Now as to essays and discussions, they have been intensely interesting and particularly valuable from the rubber planting standpoint. But looking at them from the rubber manufacturers and rubber chemists' standpoint we face wholly different conditions. We say carelessly that there are no secrets to-day in the rubber trade, yet the trade is full of them—secret processes, compounds and machines. Not only that, but it often happens that two factories side by side, equipped with similar machinery, using identically the same compounds, with equally skilled help, and under the same management, are unable to produce the same quality of goods.

"A very complete industry is the rubber business; in fact, it is a series of widely varying industries. Insulated wire, hard rubber, mechanical rubber goods, footwear, surgical rubber, dental rubber, while basically the same, vary widely in compounding and manipulation before they become finished products.

"The expert in one of these lines usually knows little or nothing of the others and each of these lines is full of complexities and secrets.

"The rubber chemist, therefore, coming here to read a paper, is in honor bound not to talk about the secrets of the factory he represents, and he chooses a subject very general in its nature. The chief value of this great meeting of experts is not in the essays read, nor the speeches made, but in the meeting of such men as Kelway Bamber, a rubber planting chemist and expert,

and Dr. Torrey, a factory chemist and expert. Their private exchange of views is bound to be of value to each and result in the good to the trade at large. Thus the scores of manufacturers, planters, chemists and experts, who meet socially and talk informally, are the real leaven that will revivify and animate and solve the great inner mass of rubber problems that confront us to-day. Like the New England Rubber Club, it brings men of common purpose and identical interest into closer touch with one another, with great resultant good to all."

VINS
Rudesheimer Bosenberg
1899
G. H. Munim & Co.
1900
DEUTZ & GELDERMAN
1898
Chateau Belair St. Emilion
1900
Liqueurs
CIGARS
Flor de Cuba
Sublimes
CIGARETTES
Quo Vadis
State Express

MENU DU DINER
Hors d'Œuvres à la Bamber
Consommé Olympia
Crème du Hevea
Turbot Ceagulation
Para Ham in Substitute Jelly
Saddle of Mutton, Netherlands
Poularde de F. M. S.
Salade Cœur de Latex
Poires à la Bresil
Friandises en Formaldehyde
Plantation Dessert
Café Mexico

TOAST LIST AT THE PILLAR HALL BANQUET.

His Majesty the King.-Proposed by the Chairman.

Her Majesty the Queen, the Prince and Princess of Wales, and the other Members of the Royal Family.

The Rubber Industry.—Proposed by the Chairman. Response on behalf of the Rubber Growers by J. Loudoun Shand, Esq.

The Visitors.—Proposed by Col. W. J. Besworth, chairman of the Executive Committee. Response by Louis Hoff, Esq., chairman of the German Rubber Manufacturers' Association, and N. H. Witt, Esq., commissioner for the State of Amazonas, Brazil.

The Technical Press.—Proposed by E. E. Buckleton, Esq. Response by H. C. Pearson, Esq., Editor of The India Rubber World, New York.

The Chairman.—Proposed by Norman Grieve, Esq. Response by Sir Henry A. Blake, G. C. M. G., President International Rubber and Allied Trades Exhibition.



THE SILVERTOWN COMPANY'S EXHIBIT.

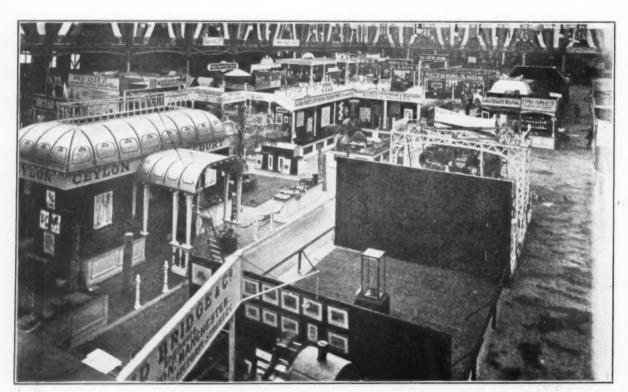


"MURAC" PAVILION AT OLYMPIA.



THE NETHERLANDS PAVILION AND MEMBERS OF THE COMMISSION,

[Viewed from left to right, the gentlemen appearing in the picture are A. G. N. Swart, LL.D., general commissioner; Dr. W. R. Tromp de Haas, of Java; H. S. J. Maas, Netherlands Consul-General at London; K. H. H. Van Bennekon; Jac. Musly, of Weise & Co., Rotterdam; J. Pompe, of Amsterdam Caoutehoue Fabriek (seated); J. G. von Hemert; and J. Merens, of Merens Brothers, Haarlem.]

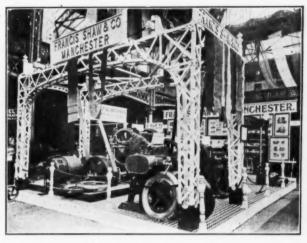


A General View in the Main Exhibition Hall.

INTERNATIONAL RUBBER AND ALLIED TRADES EXHIBITION, AT OLYMPIA.



RUBBER EXHIBITS FROM BRITISH COLONIES.

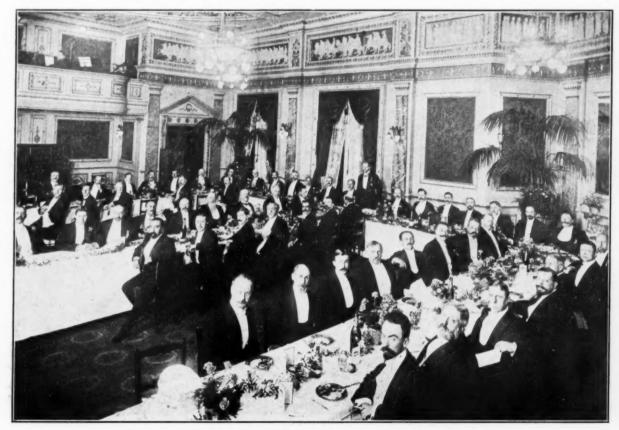


A DISPLAY OF RUBBER MACHINERY.

THE NETHERLANDS COMMISSION DINNER.

THE Netherlands Commission for the International Rubber Exhibition gave a dinner at the Trocadero restaurant, London, Mr. H. S. J. Maas, presided. The guests included, beally enjoyable affair. The Netherlands consul-general at London, Mr. H. S. J. Maas presided, The guests included, besides the members of the commission, a number of the commissioners from other countries and colonies, and experts in rubber botany and chemistry. Among those present was the newly appointed Netherlands Minister to Japan, Sir Henry

Arthur Blake, and Director Prain, of the Kew gardens. The chairman said that cn hearing that Sir Henry Blake was to be president of the Rubber Exhibition, he strongly advised his government to be represented, and Dr. Swart, appointed as chairman of the Netherlands Commission, had done notable work in making its exhibit a success. Sir Henry Blake was among the speakers, as were also Dr. Tromp de Haas and Mr. Jac. Musly. The Editor of The India Rubber World responded to the toast "The Press."



DINNER OF NETHERLANDS COMMISSION FOR THE INTERNATIONAL RUBBER EXHIRITION.

The Continental Caoutchouc Works, at Hanover.

By Our British Correspondent.

POR some years it has been customary for me at this season to write a few notes in reference to rubber matters which have come under my notice during my summer vacation on the continent. Certain country districts in Bohemia, in which the bulk of my time was spent this year, are briefly referred to in my regular correspondence this month, and I propose to devote the present article to the important works mentioned above, as I had the opportunity afforded me, when passing through Hanover, of making an inspection of the principal factory. It is hardly necessary to say that this was not accomplished in a few minutes, and I have to express my indebtedness to Herr Adolf Prinzhorn, the senior director, for my courteous reception and for the time he personally put at my disposal. This is by no

means the first occasion in which these works have been referred to in The India Rubber World, and it would therefore be superfluous to enlarge particularly upon their evolution, capitalization and statistical position. Suffice it in this respect to say that, starting in 1872, with 200 men and a very modest capital, the company now have a capital of 4,200,000 marks [= about \$1,000,000], employ 6,000 hands exclusive of staff, and are almost the largest rubber manufacturing concern in the world, using, I am told, one-thirtieth of the total output of raw rubber

Some eight miles off an additional factory has recently been completed, the great increase in the cycle and motor tire business being mainly responsible for its erection. In the Hanover factory about 6,000 cycle and motor covers are made per day in the busy season, in two rooms each 500 feet long. In this department I was interested to see at work the large fabric bias cutting machines which have taken the place of hand cutting, with marked

economy. These machines are of German make, a remark which applies pretty generally to the machinery throughout the factory, with the notable exception of the fine sheet cutting machines, which emanate from Salford, Manchester. It appears that while

the wired-on cycle tire cover is the type principally made for export, the beaded edge is the most popular in Germany. The inner tubes, both for cycles and motor tires, are all made in the seamless fashion by the tubing machine, red rubber being used much more extensively than grey in their manufacture.

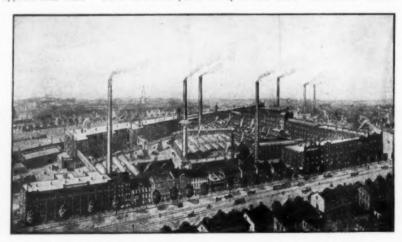
Going back to the raw material, mention may be made of the extensive use of the hollander in washing. The drying is all done by steam heat, the chambers being situated on the second floor. The management is not enamored of vacuum drying, rolling out thin and the use of exhausting fans enabling the drying by heat to be carried out expeditiously. The arrangements in the cut sheet department with regard to the freezing chamber for blocks and the cutting process are practically identical with those of the English firms engaged in this branch, and from what I was told, the Continental is

producing counts quite as fine as those of its old established competitors. The ball department was of special interest to me, because here I saw for the first time the patent ball-making machine of Wolcott and Ryder, who are connected with the New York Rubber Co. The patent rights for Germany are in the possession of the Continental company, and Mr. Prinzhorn expresses himself as perfectly satisfied with the working of the machines, which are much superior to earlier efforts in their direction, and show a great economy in production compared with hand labor. The exact composition of the rubber mixing is an important matter. The English rights for this machine are in the hands of a prominent north of England rubber firm, but I have no information as to whether it is being used. The number of balls automatically made at one movement of the

matically made at one movement of the machine varies from four to eight, according to diameter. It should be mentioned that so far only hollow playing balls are being made by this machine, it not being considered accurate enough for lawn tennis balls, in the manufacture of which I noticed an amount of precision which rather surprised me. On the Continent and in the Colonies the uncovered red ball has a much greater vogue than in England, and I was not surprised to find numbers of them in process of manufacture. Space will not permit of my noticing all the departments I visited, but I cannot refrain from expressing my satisfaction at the complete freedom from bisulphide of carbon vapors of the air of the workroom in which a certain process of cold curing was being actively carried on. The German regulations, I was informed, are even stricter than those in force in Great Britain, but judging by the very perfect way in which the Continental company have overcome the difficulties involved it cannot be contended that the German

ADOLF PRINZHORN.

regulations are too onerous in a hygienic matter of such great importance. Glancing for a moment at the power department, it may be mentioned that considerable alterations have been ma'e in recent years on up-to-date lines. Mechanical stokers



WORKS OF THE CONTINENTAL CAOUTCHOUC- UND GUTTA PERCHA COMPAGNIE.

are being fitted to the majority of the boilers, and the water tube boiler is largely in evidence. Two modern engines of 1,000 H. P. each are engaged in developing electricity, much of the power required in the departments being derived from electric motors. The baths, dining and recreation rooms for the work people are on lines which are tolerably familiar to those who are acquainted with German industrial procedure; in this department of a large factory I have for years remarked the superiority of Continental countries as compared with Great Britain, though in several cases a great improvement is now noticeable in the latter country. It seems that no less than 3,000 liters of white coffee are given out daily at certain definite times to work people who ask for it. This is quite a recent departure, and at first a small charge was made for the refreshment. The coffee is now given free and the general result has been to diminish the amount of beer drunk at meal times.

Knowing as I do with what energy the Germans are tackling rubber chemistry I was not altogether surprised to be shown a research laboratory inhabited by two doctors of chemistry who devote themselves exclusively to research work, and in passing I cannot refrain from expressing the opinion that men with the financial resources of such a concern behind them and with no other business to attend to, are more likely to achieve important discoveries than are those rubber enthusiasts who take on rubber as one subject in a general practice. I say that because I was recently told at Olympia that the discoveries of the future will come from outside the rubber factory. In addition to this research laboratory there is also the works laboratory, where routine tests and analyses are carried out. It will be seen then that the scientific side of the industry is receiving full attention, as is now the rule at large Continenta! factories. Moreover, in contradiction to what obtains in most of our British works, the managing director has familiarized himself with rubber chemistry up to date and can explain the complicated apparatus of the research laboratory with the lucidity that characterizes his description of the factory plant with which he has for so long been familiar.

It is hardly necessary, in writing for India Rubber World readers, to point out how varied are the products of the works at Hanover, embracing as they do almost everything made of rubber except footwear.

NEW TRADE PUBLICATIONS.

THE L. & M. RUBBER WORKS (Carrollton, Ohio), issue a catalogue of Drug Sundries, Molded, Seamed, and Dipped Goods, under the "Buckskin" brands, which is interesting and attractive, and more than ordinarily complete for a new concern. [6" x 9". 28 pages.]

Fred. Medart (St. Louis), one of the longest established manufacturers of gymnastic apparatus in the country, sends a booklet, "What Others Say," filled with testimonials in regard to the Medart supplies, several of which have been described in these pages as being composed to an important extent of indiarubber. [3½" x 6¼". 24 pages.]

New YORK INSULATED WIRE Co. (New York) issue their price list No. 22 of "Raven Wire Core" Rubber Covered Wires and Cables, giving prices on rubber-covered wires on the various copper bases, from 11 cents to 21 cents, and including various tables which will be found of service.

SYRACUSE RUBBER Co.—F. C. Howlett, president and treasurer (Syracuse, New York), issue their most elaborate catalogue—to date—of Druggists' Sundries. It is profusely illustrated and gives prices of the products of leading manufacturers. [6¾" x 9¼". 200 pages.]

The North British Rubber Co., Limited (Edinburgh), as everybody in the trade knows, have figured to an important extent in the supplying of rubber footwear to the Oriental trade, and particularly to China. Everybody in the trade, however, may not have seen the exceedingly interesting posters on a large scale got out by the North British company for use in China—posters involving Chinese artistic ideals, with lettering in Chinese, and views of interiors of Chinese shoe stores and the like. One of these posters embraces a Chinese calendar for a year, and all of them contain pictures of the peculiar styles of waterproof footwear required in the markets of China. If any trade publication that has reached The India Rubber World during the past 20 years is entitled to the designation "unique," we readily give the palm to the North British Rubber Co.'s Chinese posters.

ALSO RECEIVED.

Dr. H. Robinson, Waco, Texas=Hygienic Masseur. 12 pages. Stewart & Halihan, 210 Broadway, New York=[Catalogue (No. 34,

1908), Rubber Stamps.] 32 pages. Also: Price List. 4 pages.

Healy Leather Tire Co., New York.=Healy Rims and Tires. 32 pages. The S. S. White Dental

The S. S. White Dental Manufacturing Co., Philadelphia. = Bread and Butter Goods. 16 pages.

The H. J. M. Howard Manufacturing Co., Washington, D. C.= Howard Swinging Hose Racks. Catalogue 1907-1908.
20 pages.
Myers Manufacturing Co., Fremont. Ohio.="Costa" Drugsists' Rubber Sundries. 20

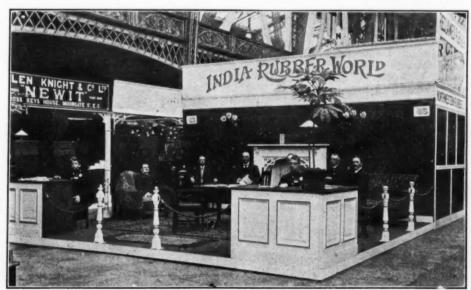
pages.

B. F. Sturtevant Co., Boston. = Bulletin 156—Generating

ton. = Bulletin 156—Generating
Sets. 8 pages.
W. W. Winship, Boston.=
Automobile Trunks and Equipments. 20 pages.
Voorhees Rubber Manufacturing Co., Jersey City, New
Jersey.= Big Game. [Large
goods in mechanical rubber.]

turing Co., Jersey City, New Jersey.—Big Game. [Large goods in mechanical rubber.] 12 pages.
The Cleveland Galvanizing Works Co., Cleveland, Ohio.—Cleveland Pump Chain and Rubber Pump Buckets. 8 pages.

It is authoritatively announced that another international rubber exhibition will be held in 1910.



"THE INDIA RUBBER WORLD'S" STAND AT OLYMPIA.

[From left to right: Mr. A. Staines Manders, organizing manager; Mr. Henry C. Pearson; Colonel W. J. Bosworth, chairman of the executive committee; Mr. Richard J. Hoffman, of Rubber Growers' Exhibition Committee; Mr. S. P. Gifford, The India Rubber World. (Pages at the desks.)]

New Rubber Goods in the Market.

HEN the number of railway cars is considered, and the necessity for keeping passenger cars in sanitary condition, it will be seen how large a contract would be involved in merely undertaking to supply apparatus for cleaning all the cars in the country. A distinctive feature of the device illustrated here is that it may be employed to utilize the compressed air with which every steam or electric railroad is equipped. Where a compressed air plant is not permanently installed this cleaner may be operated from the air brake pump of any electric car by simply attaching it by means of a hose to the brake reservoir. By means of this system a car may be stopped at any place, the cleaner attached to the air brake line



ELECTRIC DRIVEN VACUUM CAR CLEANER.

and the car cleaned in 10 or 15 minutes at a cost not exceeding 2 cents for power. The vacuum producer is connected to the compressed air supply (either pipe line or air brake reservoir on car) by means of a compressed air hose. The vacuum hose is connected to the side of the tank and the other end to which the tools are attached is taken into the car. The compressed air is turned on and regulated by the valve on the vacuum producer until the proper vacuum is obtained. The cleaning tools are passed over the seats and other articles to be cleaned until all the dirt is removed. The same general system is employed in cleaning apparatus for office and household use involving a stationary compressed air plant. [The National Vacuum Cleaning Co., Dayton, Ohio.]

"FEEL FINE" AIR HEELS.

Among the specialties offered to the trade by the Consolidated Manufacturing Co. (Hartford, Connecticut) are the "Feel Fine"



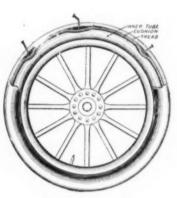
"FEEL FINE" AIR HEELS.

air heeis. These heels are pneumatic cushions of high grade rubber for wearing inside the shoe. They are of rubber so prepared that they contain horseshoe shaped channels, medically sealed, but filled with air, and they are covered with a sock lining of kid, so arranged that by placing them inside the shoe they are at once cemented in the heel seat. It is claimed by the manufacturers of this heel that the air-filled channels produce a resiliency not to be found in the same degree in any other rubber heel. It is also claimed that the connection between the air channels largely obviates the tendency to "running over."

COX TIRE CUSHION.

This illustration relates to a cushion to be placed between the inner tube and the shoe of all types of pneumatic tires for auto-

mobiles. It is made of felt and fabric. It is designed to help in stopping punctures and blowouts, to prevent inner tubes from chafing or being pinched, to keep the tire cool in hot weather, and in various ways to make tires last longer. Any one can apply the cushion It is pointed out that where it is used smaller inner tubes may be bought, which means a saving in cost. [David H. Cox, Rahway, New Jersey.]



COX TIRE CUSHION.

ROBINSON'S HYGIENIC MASSEUR.

THE illustration herewith relates to a small device or outfit patented by Dr. H. Robinson, of Waco, Texas, for massaging the eyes, eyelids, lips, and the like; it is designed to serve also



ROBINSON'S HYGIENIC MASSEUR,

as a respirator or lung developer, a nasal or ear syringe, and for other purposes. The numbers in the half-tone shown relate to uses of the outfit as follows: (1) Interior view of receptacle and appliances when not in use; (2) eye bath; (3) massage cup

for eyelids and lips; (3) massage cup for eyeballs and face; (5) superfluous flesh reducer; (6) nasal syringe; (7) ear syringe; (8) nasal inhaler; (9) respirator or lung developer; (10) blackhead extractor.

"E-Z WAVE" HYGIENIC HAIR CURLER.

THIS little novelty, designed especially for making the "French wave"-whatever that may mean in hairdressing-is made wholly

of rubber. It is hence wholesome and easily kept clean, besides being light, in addition to the flexibility which renders its use comfortable. It is referred to as being a good seller. [Hygienic Hair Waver Co., New York.]



"E-Z WAVE" HAIR CURLER.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

N speaking of the conditions of business it is usual with men in the rubber trade to begin by saying that conditions, especially in the mechanical lines, are very quiet, and then after a little reflection they go on to say that on the whole business is fairly active and getting steadily better. They are all confident that the very quiet times are at an end and that, no matter how slow it may appear at times, there is no danger whatever of a repetition of the apathy which was so evident during some of the months following the financial panic. As for the houses which deal in rubber clothing and shoes, the season has opened up with a few rains, so that business is quite good, but the strictly mechanical rubber houses find that business is slow and they do not expect things to become really flourishing until early spring. Very little talk is directed towards the coming presidential election, either because people are certain of the outcome, or because less importance is attached to the outcome than has been the case in former years, and the fact that the election time is approaching is not given as a very important reason for times being as quiet as they are. On the whole it may be said that the rubber business on the coast is fairly good, and that there has been a steady improvement during the past month, which is not at all likely to suffer a relapse.

Business with the Bowers Rubber Works is said to be very favorable, and the factory is running full handed. has been shipping a goodly quantity of goods to the Orient. Mr. C. O. Bowers, the present superintendent of the factory at Black Diamond, has gone on East for a month's vacation trip. Mr. H. A. Cushman, the former superintendent of the works, died recently

Mr. Gurr, representative of the W. D. Allen Manufacturing Co. (Chicago), has been visiting the trade of the Coast, and has recently spent a few days among the rubber merchants of San Francisco.

Mr. Jennings, representing the H. B. Sherman Manufacturing Co., of Battle Creek, Michigan, is now making the rounds of the local trade in the interests of his house.

Mr. McIlroy, Eastern traveling representative from the Lake Shore Rubber Co. (Erie, Pennsylvania), is now in San Francisco, placing business for his firm.

The report from the Gutta Percha and Rubber Manufacturing Co., on First street near Mission, is that business, though still quiet in mechanical lines, is gradually moving forward, and is now working up pretty well. C. H. Brown, of this company, is now in the Northern territory in the interests of the firm.

The Plant Rubber and Supply Co. report that they are waiting for the spring business, and do not expect a very great business before that time. Trade is quiet, but it has been much worse than it is at the present time, and the outlook is favorable for a good year after the first of January.

Mr. R. H. Pease, president of the Goodyear Rubber Co., has recently returned from an extended trip to Portland, Oregon, where he found that business has been improving every week. "The same can be said of San Francisco," he said. "We are waiting for the heavy rains, and if they will come early it will give us a splendid business, as the retailers throughout the country are in a flourishing condition, the only trouble being that they are now pretty heavily stocked up, and a fex good rains will enable them to sell off some so that they could increase their orders. The mechanical business is improving and as soon as there is enough water in the mountains to work the mines we look for a big increased business in that direction."

Mr. H. C. Norton, of the Pacific Coast Rubber Co., at 418 Mission street, states that business is increasing gradually and satisfactorily. He announces that on the first of November his firm will take over the lines of the Peerless Rubber Manufacturing Co., for the Pacific coast, including the well-known "Rainbow" sheet packing.

Mr. McNeilly, manager for the Barton Packing and Rubber Co., at No. 533 Howard street, states that this month has resulted n a very good business; in fact, a big improvement, and if it would only keep up, he would have no fault to find at all.

The Phoenix Rubber Co. are now settled in their new location on First street, between Mission and Howard, and very commodious and convenient quarters they are. Mr. Kanzee, one of the proprietors, is away for an extended trip in the Eastern states, among the manufacturers. Mr. Ralph, his partner, is away at the present time for a short trip in Santa Rosa, Cali-

Mr. Sargeant, local manager of the Gorham Rubber Co., reports: "Our business is improving steadily, and we feel perfectly satisfied that by the beginning of the new year, not later than February, the good old times will be revived. In fact, nearly all of the rubber men are pinning their hopes on February as the month which will see the biggest change for the better of any we have yet had. Our collections are good and money seems to be coming in better all round." Mr. Gorham is in Los Angeles on business, and Mr. Parrish, sales manager, is still in the Orient looking after trade.

Mr. Perkins, of the Sterling Rubber Co., on Second street, states that business is spasmodic, there being a week or two of good business followed by almost a perfect vacuum. It is not normal yet, he says, not as good as it should be at this time of the year, and still it is much better than it has been, and is getting better. Goods that can be used in the holiday trade are having a big run and the holiday trade will be as good as in the best of years. For the other rubber lines there will not be much improvement until after the first of the year.

L. L. Torrey, manager of the Pennsylvania Rubber Co., is now away on his Eastern trip, and is expected to return to this city within two or three weeks.

C. E. Mathewson, Pacific coast manager of The Diamond Rubber Co., states that this firm will select a new location for its uptown branch, now out on Golden Gate avenue. The branch has for a long time been located in a temporary frame building, but the new location, will also be out on Golden Gate or near it, and in the vicinity of Van Ness avenue. Mr. Mathewson is preparing to take a run down to Los Angeles to look after the branch store in that city. J. E. Argus, who has charge of the firm's mechanical department, will also go to Los Angeles to look after the mechanical lines there.

Automobile tires are reaching such a state of perfection in the manufacture, that whereas in automobile meets and races a certain large percentage of accidents were anticipated as a result of defective tires, statistics show that no accident has happened on this Coast this year during the racing season on account of faulty tires. Attention may be called in this connection to the large number of automobiles in this part of the country in proportion to the population.

News of the American Rubber Trade.

AFFAIRS OF THE UNITED STATES RUBBER CO.

THE United States Rubber Co, are reported to be considering a plan for a long term note issue for the purpose of taking up the \$4,500,000 Boston Rubber Shoe Co. debentures and \$8,000,000 of United States Rubber Co. refunding notes, and increasing the company's working capital. The refunding notes fall due in September, 1909, and the Boston Rubber Shoe Co. debentures in September, 1910. Either issue, however, can be retired at par on any interest date. The United States Rubber Co. were reported lately to be operating to 80 or 85 per cent. of their normal capacity.

NEW YORK BELTING DEBENTURES.

Notice has been given of the drawing of 310 debenture bonds of £100 each of the New York Belting and Packing Co., Limited, for redemption in accordance with the condition of the sinking fund contained in a deed of trust of the said company to the Knickerbocker Trust Co., dated February 9, 1891. Payment of the bonds is to be made on or after January 1, 1909, at the rate of \$533.50 for each bond. The company on becoming an English corporation, in 1901, issued 6 per cent. sterling first mortgage debentures to the amount of £225,000 [=\$1,094,962.50]. The amount to be retired as above stated is \$150,861.50. The amount still outstanding is not now possible to state.

NEW JERSEY RUBBER SPECIALTY CO. SOLD.

The plant and business of the New Jersey Rubber Specialty Co. (Milltown, N. J.) has been sold to the J. Elwood Lee Co., of Conshohocken, Pennsylvania. Clement E. Eckrode, one of the proprietors and hitherto manager of the Specialty company will, it is understood, continue the plant in operation for some time under the new management, after which the business will be transferred to Conshohocken. The J. Elwood Lee Co. are understood to be controlled by Johnson & Johnson, of Milltown, so that the new deal marks another step in the extensive operations of this great drug firm. It is assumed that the plant of Specialty company will in time be absorbed by the Michelin Tire Co., whose extensive works it adjoins.

WILKIE RUBBER MANUFACTURING CO.

The Wilkie Rubber Manufacturing Co. (Lynn, Massachusetts), the incorporation of which was reported in the last India Rubber World, are to succeed the Spinney-Wise Co., of the same city. About 19 years ago the firm of Nulchur & Spinney became Spinney, Virtue & Co., through the entrance of George H. Virtue. He retired in 1896, and the firm became reorganized as Spinney, Wise & Co., Mr. Wise having been in management of the factory. The business was incorporated July 31, 1905, as the Spinney-Wise Co., with Robert J. Wilkie president—a position which he will fill in the new corporation. They are manufacturers of hard and sofe rubber goods for mechanical and electrical purposes. It is understood that the factory will be removed to Saugus, Mass.

HUTTON & LAPWORTH STARTING.

The electric webbing factory of the new firm of Hutton & Lapworth, at Brockton, Massachusetts, is now in readiness, on the premises occupied at one time by the Standard Rubber Co. The members of the firm are Fred W. Hutton, formerly of the Old Colony Rand Co., of Brockton (who will have charge of the selling department), and Charles Lapworth, formerly of William Lapworth & Sons, of Milford, Mass. (who will be in charge of the manufacturing). All the machinery will be operated electrically. [The Standard Rubber Co. started in a small way in 1881 in the manufacture of rubber clothing and gradually built up an important business. They were reorganized successively as the Standard Co. and the Standard Rubber Corpora-

tion, and made an assignment at the end of 1900. The manufacture of rubber clothing was never revived on the premises, which have been for the most part idle until now.]

FACTORY EXTENSION AT WALPOLE.

The Massachusetts Chemical Co. are building an addition to their factory at Walpole, Massachusetts, comprising some 15,000 square feet of floor space, to accommodate their insulating tape department, which continues to grow. The tapes manufactured by this company, as a result of close attention to the needs of the electrical trade backed up by patient research work in the laboratory and the coöperation of a well-equipped plant, have been for many years well and favorably known for their high initial and permanent quality.

BERRODIN RUBBER CO. (PHILADELPHIA).

The Berrodin Rubber Co. have been incorporated under the laws of Pennsylvania, with \$10,000 capital. They have bought out the Philadelphia Auto Tire and Rubber Co., a partnership consisting of Sanders Levy, Jeannette, Pa., and Frank Berrodin and Saul Levy, of Philadelphia, and their branch at Buffalo, New York, and will continue their G & J tire agency in the two cities. The officers of the Berrodin Rubber Co. are: W. A. MacCalla, president; Sanders Levy, vice-president; H. K. Buck, secretary; Frank Berrodin, treasurer and general manager. The object of the company is to sell and repair automobiles and bicycle tires, and to add in the near future the sale of a full line of mechanical rubber goods. The Philadelphia address is Nos. 713-715 North Broad street; that of the Buffalo branch, No. 912 Main street.

UNITED STATES RUBBER CO .- DIVIDENDS.

The board of directors of the United States Rubber Co. on October 1 declared from net profits a quarterly dividend of 2 per cent. on the first preferred stock, and a quarterly dividend of 1½ per cent. on the second preferred stock of the company, payable October 31.

TRADE NEWS NOTES.

THE Diamond Rubber Co.'s new Boston branch, of which a view appears in another column, is one of the largest rubber stores in existence, carrying not only their rubber tires in stock, but other products of the factory.

The Goodyear Rubber Co., at the beginning of the month started their rubber shoe factory at Middletown, Connecticut, on a full time schedule, after having been running at a reduced rate during the summer.

Mr. E. H. Cutler, for many years connected with the rubber footwear trade, has become treasurer of The Consolidated Manufacturing Co. (Hartford, Connecticut), among whose special products are the "Feel Fine" air heels.

I. B. Kleinert Rubber Co. (New York) have been allowed a customs drawback on dress shields made by them in part from "garment," "garment silk," and "garment double silk," amounting to 99 per cent. of the import duties collected on the goods referred to

The Quaker City Rubber Co. (Philadelphia) are reported to be having estimates made on a one-story addition to their plant 60×138 feet.

The Republic Rubber Co. (Youngstown, Ohio) have completed an important order for fire hose for Peoria, Illinois, which was sent by express in view of the pressing necessity for the supplies.

The Seamless Rubber Co. (New Haven, Connecticut) are to make an addition to their plant by the erection of a one-story brick building, 90 x 200 feet, on Congress avenue, to be used as a shipping office.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending October 24:

COMMON STOCK.

| | Sales 1,000 shares Sales 1,600 shares | | Low 30 Low 303/4 |
|-----------------|--|------------|---------------------|
| Week October 17 | Sales 1,370 shares Sales 6,250 shares | High 321/2 | Low 31 |

For the year-High, 371/2, Aug. 7; Low, 171/2, Feb. 26. Last year-High, 521/2; Low, 131/2.

FIRST PREFERRED STOCK.

| Week October 3 | Sales | 300 | shares | High | 100 | Low | 991/ |
|-----------------|-------|-------|--------|------|--------|-----|------|
| Week October 10 | Sales | 943 | shares | High | 1011/2 | Low | 101 |
| Week October 17 | Sales | 1,597 | shares | High | 1013/4 | Low | 100 |
| Week October 2 | Sales | 1.200 | shares | High | 1007% | Low | 100 |

For the year—High, 102¾, Aug. 7; Low, 76, Feb. 19. Last year—High, 109¾; Low, 61¼.

SECOND PREFERRED STOCK.

| Week October 3 | Sales | 145 shares | High | 68 | Low | 68 |
|-----------------|-------|------------|------|-------|-----|-------|
| Week October 10 | Sales | 200 shares | High | 68 | Low | 68 |
| Week October 17 | Sales | 200 shares | High | 691/2 | Low | 68 |
| Week October 24 | Sales | 50 shares | High | 671/2 | Low | 671/2 |

For the year-High, 74, Aug. 7; Low, 42, Feb. 21. Last year-High, 781/4; Low, 39.

RECLAIMING RUBBER AT ERIE.

THE Continental Rubber Works (Erie, Pennsylvania) have taken on the reclaiming of rubber, with such results, it is understood, that they feel encouraged to enlarge their capacity for this production in the near future very materially. They have placed orders for additional machinery to increase their output of reclaimed rubber with a view to more than doubling the same within the next month or so. By the time the equipment now being installed is completed they expect to be sending out 20 tons per day.

NEW INCORPORATIONS.

Rubber B. B. Co., October 24, 1908, under the laws of New Jersey; capital authorized \$25,000. To manufacture rubber specialties and engage as mechanical engineers, etc. Incorporators: Isidore Schwartz, Hyman Davidson, and Joseph B. Bloom—all of Newark, N. J.

The Safety Tire Co., October 17, 1908, under the laws of Maine; authorized capital \$2,000,000. To manufacture and deal in rubber tires. Clarence E. Eaton and T. L. Croteau, of Portland, Me., are respectively president and treasurer.

Leolastic Co., October 15, 1908, under the laws of New Jersey; authorized capital, \$1,000,000. The object of the company is stated to be the manufacture of rubber goods, and a building is being erected at Bayonne, N. J., to which will be removed a business now carried on at Fall River, Massachusetts. Incorporators: George H. Makepeace and Montgomery D. Coleman, both of No. 120 Broadway, New York, and J. Milton Ferry, Bayonne, N. J.

Non-Blow-Out Auto Tire Co., October 12, 1908, under the laws of New Jersey; authorized capital, \$500,000. Incorporators: Edward D. Birkholz, Frederick R. Tyrell and Robert S. Terhune—all of No. 812 Broad street, Newark, N. J.

Berrodin Rubber Co., October 10, 1908, under the laws of Pennsylvania; capital, \$10,000. To deal in rubber tires in Philadelphia and elsewhere. Further details appear in another column.

Pennsylvania Rubber and Supply Co., October 10, 1908, under the laws of Ohio; capital, \$12,000. Incorporators: Edward J. Hobday, Eugene Quigley, Frederick A. Whittemore, E. M. Landphair and William J. Wilson. Location of business, Cleveland, Ohio.

Automobile Tire Co., October 20, 1908; capital, \$10,000. Directors: Edward C. Griffith and Mary T. Griffith, No. 1584 Broadway, and George L. Lewis, No. 42 Broadway, New York.

Preston Fabric Tire Co., October 16, 1908, under the laws of New York; capital, \$100,000. Directors: Christian Wesp, Morris R. Evans and James F. Preston—all of Buffalo, N. Y. White Tire Co., October 16, 1908, under the laws of New York; capital, \$250,000. Incorporators: L. L. Stein, L. L. Doblin and N. Coleman, New York city, and E. P. White, Chicago.

Maumee Rubber Co., September 30, 1908, under the laws of Ohio; capital authorized, \$25,000. Incorporators: William H. McClellan, Jr., Conrad Weil, Stella M. Hughes, Fannie E. Turner, and William R. Hodge. To conduct a retail rubber goods store at Toledo, Ohio, with Albert E. Wentz, manager.

Hygrade Rubber Bicycle and Automobile Supply Co., October 17, 1908, under the laws of New York; capital, \$10,000. Directors: Arthur W. Rood, Troy, N. Y.; Percy B. Whitmore and George M. Post, New York city. Location of business, Troy.

The Rickert Rubber Co., October 9, 1908, under the laws of Ohio; capital, \$20,000. Incorporators: Thomas Rodgers, George W. Williams, Edward P. Rickert, W. L. White and John G. Rhonehouse. Location of business, Cleveland, Ohio.

Sectional Rubber Tire Co., August 24, 1908, under the laws of Massachusetts; capital, \$50,000. Incorporators: Frank E. Hall, Wollaston, Mass.; Albert H. Cushing (treasurer), Brookline, Mass.; Warren T. Simpson (clerk), South Weymouth, Mass.

The Bayne-Subers Tire and Rubber Co. (Cleveland, Ohio), a new concern mentioned already in these pages, have filed a certificate of increase of their authorized capital from \$5,000 to \$100,000 in view of a projected increase in the scope of their business.

TRADE NEWS NOTES.

The report of Mr. Lucius C. Ryce, receiver of the Seward Rubber Co. (Berlin, Connecticut), accepted by the superior court at Hartford on October 16, shows that a 50 per cent. dividend has been paid to schedule A creditors, amounting to \$11,451.69, and a small amount to schedule B creditors. The balance in hand will permit a final dividend of a few cents on the dollar.

The National India Rubber Co. (Bristol, Rhode Island) are reported to be in receipt of good orders for rubber shoes and of tennis goods—the production of which began on October 19—together with increased work in the insulated wire and other departments.

The steamer Cearense, which arrived at New York from Pará on October 9, brought 1,798 cases of rubber, worth at prevailing prices, considerably more than \$1,000,000, or more than double the value of the average cargo brought in by transatlantic liners.

The dismantling of the plant of Milford Rubber Co. (Milford, Massachusetts), the closing of which has been mentioned already in these columns, has now been practically completed, the outfit having been disposed of to several other rubber manufacturing concerns.

The Fisk Rubber Co. (Chicopee Falls, Massachusetts) have called to their offices Mr. George A. Campbell, for some years their local manager in Boston, and Mr. Fred H. Ayers, formerly associated with Mr. Campbell, has been appointed Boston manager.

The factory of The B. F. Goodrich Co. (Akron, Ohio) has lately been employed 23 out of 24 hours of the day, in order to keep up with the orders received for their product.

The Firestone Tire and Rubber Co. (Akron, Ohio) have removed their Boston branch from No. 9 Park square to No. 145 Columbus avenue. Mr. T. J. Glenn remains branch manager at

Mr. Otis R. Cook, who has become general manager of the tire department of the Federal Rubber Co. (Cudahy, Wisconsin), had filled a similar position for two years previously with the Firestone Tire and Rubber Co. (Akron, Ohio), following a connection of 12 years with The B. F. Goodrich Co. Mr. Osborne S. Tweedy, formerly in the employ of The Diamond Rubber Co., will be associated with Mr. Cook as manager of tire sales.

The Federal Rubber Co. (Milwaukee, Wisconsin) are making automobile tire covers of the regular G. & J. type.

EX-GOVERNOR BOURN'S BIRTHDAY.

On the evening of October 1, ex-Governor Augustus O. Bourn, of Rhode Island, gave his customary birthday dinner. For many years it has been a custom for the ex-Governor to gather around his table a few of his friends. Several members of his staff who served him faithfully when he was governor, joined in wishing his health, as also did his two sons, Augustus O. Bourn, Jr., and Stephen Bourn, who are associated with him in business. The dinner was a typical Italian dinner, such as the governor was accustomed to give in Italy when he entertained officially while residing in Rome as consul-general.

PERSONAL MENTION.

MR. FRANK PEGLER, the head of the long established Northern Rubber Co., of Retford, Nottingham, England, has been a visitor recently to United States. Mr. Pegler has been a member of the general committee of the India-Rubber Manufacturers' Association of Great Britain since the beginning of that organization, and served as chairman of the association for the year 1904. Mr. Pegler was in attendance at the recent International Rubber Exhibition at Olympia, where his company made an interesting display.

Mr. Ernest E. Buckleton, manager of the Northwestern Rubber Co., Limited, Litherland, Liverpool, has been making a visit on business to United States, going as far west as Akron, Ohio.

Mr. Henry C. Pearson, Editor of The India Rubber World, who was lately in attendance at the International Rubber Exhibition at Olympia, London, sailed for America on October 29.

Mr. Wilfred A. Joubert, for some years identified with the balata interest in Dutch Guiana, on which he wrote at length in The India Rubber World, is now manager for the United States Banana Co., at Salto del Agua, Mexico.

Mr. A. T. Hopkins, superintendent of the Boston Woven Hose and Rubber Co., is on the list of lecturers upon "Problems of a Livelihood," to be delivered this season before the Young Men's Association at Cambridge, Mass.

TRADE NEWS NOTES.

THE American Circular Loom Co., one of whose plants was destroyed by the great fire at Chelsea, Massachusetts, a few months ago, announce that their new factory at North Cambridge, Mass., is now ready and equipped throughout with modern and improved machinery for the manufacture of their "Circular Loom" product for electrical wiring purposes.

Recent heavy rains in the vicinity of Plymouth, Massachusetts, led to considerable damage by high water. At the Chiltonville factory of the Boston Woven Hose and Rubber Co. the brick wall of a new addition to the plant in progress of construction was undermined, causing a loss of several thousand dollars.

Charles E. Miller, No. 1829 Euclid avenue, Cleveland, Ohio, will distribute "Continental" tires and demountable rims for that city and its vicinity.

O'Sullivan Rubber Co. (Lowell, Massachusetts), state that rubber heels made by them were worn by John J. Hayes in winning the Marathon race in London—one of the most notable of modern international athletic contests.

A petition in bankruptcy has been filed against the Baker Motor Vehicle Co., of New York, by counsel for three creditors, including a tire manufacturing company. James N. Rosenberg has been appointed receiver, with authority to continue the business for the present. The company was incorporated in August, 1907, to act as New York agents for the Baker Motor Vehicle Co., of Cleveland, Ohio.

T. Martin & Brother Manufacturing Co. (Chelsea, Massachusetts) have commenced the erection of an addition to their elastic fabric factory—brick and concrete, 60 x 100 feet.

The Apsley Rubber Co. (Hudson, Massachusetts), since the first of the past month, have been running their factory full time and full ticket.

TRADE NEWS NOTES.

THE Fisk Rubber Co. (Chicopee Falls, Massachusetts), on account of increased business, have found it necessary to secure larger quarters in Minneapolis, Kansas City and Seattle. In each of these cities they have completed arrangements for the erection of new buildings, designed to be ready for occupancy before the end of the year.

The Lycoming Rubber Co. (Williamsport, Pennsylvania) on September 25 completed the first quarter century of their history. It is stated that the Lycoming company to-day include among their customers several jobbers who started to handle their goods 25 years ago.

The Imperial Rubber Manufacturing Co. (Canton, Ohio), who have specialized in seamless goods in the past, have added to their output of druggists' sundries a line of seamed syringes and water bottles.

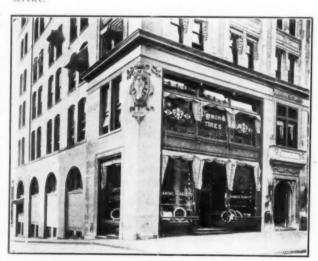
A petition in bankruptcy has been filed against Charles A. Duerr & Co. (corporation), selling agents for automobiles at No. 2182 Broadway, New York, by an attorney for three creditors in the tire trade. Lindsay Russell has been appointed receiver. The corporation was formed in May, 1903, with \$5,000 capital, increased later to \$30,000 capital. The liabilities have been referred to as about \$100,000, with much smaller assets.

GOODYEAR TIRES ON THE PACIFIC COAST.

THE W. D. Newerf Rubber Co. (Los Angeles, California) have largely increased the scope of their business, now having the agency for the tires of the Goodyear Tire and Rubber Co. for all territory west of the Rocky mountains, and also British Columbia. In addition to their main establishment at No. 932 South Main street, Los Angeles, they have a branch house at No. 506 Golden Gate avenue, San Francisco, and also agencies at Portland, Seattle, Fresno, Bakersfield, San José and San Diego, and more agencies are to be placed at important towns between Vancouver and San Diego.

"CONTINENTALS" TO WITHDRAW FROM LOCAL RACING.

Manager Gilbert, of the Continental Caoutchouc Co. (New York), states that the numerous races held these times so greatly interrupt their regular routine work that they are compelled to withdraw their support from the sport. Mr. Gilbert states that in every race they have taken twice as many cars as expected owing to their fine facilities for racing and the reputation of "Continentals." In the large races, like Savannah, they cannot very well withdraw as customers of long standing demand their services.



THE DIAMOND RUBBER Co.'s New BOSTON BRANCH.
[Nos. 219-223 Columbus avenue.]

THE COTTON GOODS MARKET.

THE season's contracts for hose and belting duck have been consummated at prices much lower than those of last season. From what can be learned at this time, it would seem as though the demand for the coming season will be extensive. The rubber shoe trade have contracted for a sufficient quantity of fabric to carry them well into next season.

The manufacturers of automobile tires have had an exceedingly prosperous season, and in anticipation of greatly increased business for next year have contracted ahead for Sea Island and Egyptian fabrics. The expected demand for the coming season will probably render the supply inadequate.

Indications from what must be regarded as a competent source foreshadow higher prices and smaller crops. It is claimed that 75 per cent. of the yield for 1908 has already been gathered in four Southern states, and that the supply from the present outlook will hardly equal the call. The quality of this season's offerings are said to be superior to those of last season.

Speculative cotton is active, as prices are sufficiently low to stimulate vigorous trading. In the event of expected increased post-election rubber business, it is very probable that orders largely in excess of those covered by contract will be placed long before the expiration of the contract period.

The demand for cotton for New England mills has been larger of late than for many months past.

Review of the Crude Rubber Market.

BEGINNING early in the past month, there has been a steady advance in prices, extending to practically every grade on the New York market. There have been rumors of "short sales" in England, particularly of Pará grades, with the usual concomitant of stiffer prices at settling time. The statistical position of rubber, however, would seem to point to a higher normal price level than has prevailed for some time past, especially as the trade looks forward to increased activity of the rubber factories in the near future as a necessity. Manufacturers have not been active buyers at the advanced prices, orders coming principally from the class who do not keep large stocks at factory, and are therefore obliged to buy constantly to cover their requirements.

The monthly inscription sale at Antwerp took place on October 20, when most of the 540 tons offered found buyers at an advance reported as averaging 90 centimes per kilogram, or nearly 8 cents per pound.

Arrivals at Pará during October (up to the 28th) amounted all told to 3,100 tons, against 3,200 tons for the whole of October last year. Arrivals for the crop year have been 8,655 tons, against 8,480 tons for the same months in 1908, 8,630 tons in 1907, and 8,530 tons in 1906.

The decline in the price of Brazilian rubber during the past year has had a depressing effect upon the revenues of the rubber producing states, all of which levy an ad valorem export duty on the product. There are no exact figures as to the effect on the regularly organized states, but returns have been published for the Federal district of the Acre, which show the revenue from rubber for the first quarter of 1908 to have been only 4,226,274 milreis, against 6,408,962 for the first quarter of 1907—a decline of 34 per cent. The smaller sum named here, converting the milreis at 15 per cent., equals \$1,288,708, gold.

Following are the quotations of New York for Pará grades one year ago, one month ago, and October 30—the current date:

| year ago, one month ago, an | d October 30- | -tne current | date: |
|----------------------------------|---------------|--------------|-----------|
| PARA. | Nov. 1, '07. | Oct. 1, '08. | Oct. 30. |
| Islands, fine, new | 91@ 92 | 94@ 95 | 103@104 |
| Islands, fine, old | none here | none here | 108 |
| Upriver, fine, new | 99@100 | 102@103 | 100@110 |
| Upriver, fine, old | 105@106 | 106@107 | 112@113 |
| Islands, coarse, new | 56@ 57 | 46@ 47 | 531/4@ 54 |
| Islands, coarse, old | none here | none here | 60 |
| Upriver, coarse, new | 84@ 85 | 72@ 73 | 83@ 84 |
| Upriver, coarse, old | none here | 74@ 75 | none here |
| Cametá, coarse | | 52@ 53 | 55@ 56 |
| Caucho (Peruvian), sheet. | 62@ 63 | 53@ 54 | 59@ 60 |
| Caucho (Peruvian), ball | 8o@ 81 | 63@ 64 | 77@ 78 |
| Ceylon (plantation), fine, sheet | 113@114 | 105@106 | 118@119 |
| | AFRICAN. | | |

| Sierra Leone, 1st qual- ity | Madagascar, pinky77@76 |
|--------------------------------|------------------------|
| Benguella, red47@48 | Ikelembanone here |

| Accra, flake | Soudan niggers58@59 |
|--|---|
| CENT | RALS. |
| Esmeralda, sausage69@70 Guayaquil, strip54@55 Nicaragua, scrap69@70 Panama53@54 | Mexican, scrap |
| EAST I | NDIAN. |
| Assam | Borneo27@34 |
| Per Kilo. | Per Kilo. |
| Islands, fine4\$900 Islands, coarse2\$200 | Upriver, fine6\$200 Upriver, coarse4\$200 Exchange15 7/32d. |
| Latest Manãos advices: Upriver, fine6\$200 Upriver, coarse4\$200 | Exchange15 7/32d. |

Statistics of Para Rubber (Excluding Caucho).

| Fine and Medium. Coarse. 1908. 1907. 1906. Stocks, August 31 |
|---|
| Arrivals, September 732 434 = 1166 593 723 Aggregating 818 477 = 1295 833 870 Deliveries, September 770 446 = 1216 660 777 Stocks, September 30 48 31 = 79 173 93 PARA ENGLAND. 1908. 1907. 1906. 1908. 1907. 1906. Stocks, August 31 tons 305 290 376 375 625 790 Arrivals, September 2100 2230 1565 710 600 460 Aggregating 2405 2520 1941 1085 1225 1250 Deliveries, September 1965 1948 1491 800 675 550 |
| Deliveries, September 770 446 = 1216 660 777 Stocks, September 30 48 31 = 79 173 93 PARA. ENGLAND. 1908. 1907. 1906. 1908. 1908. 1907. 1906. Stocks, August 31tons 305 290 376 375 625 790 Arrivals, September 2100 2230 1565 710 600 460 Aggregating 2405 2520 1941 1085 1225 1250 Deliveries, September 1965 1948 1491 800 675 550 |
| PARA. ENGLAND. 1908. 1907. 1906. 1908. 1907. 1906. Stocks, August 31tons 305 290 376 375 625 790 Arrivals, September2100 2230 1565 710 600 460 Aggregating2405 2520 1941 1085 1225 1250 Deliveries, September1965 1948 1491 800 675 550 |
| Stocks, August 31tons 305 290 376 375 625 790 Arrivals, September 2100 2230 1565 710 600 460 Aggregating 2405 2520 1941 1085 1225 1250 Deliveries, September 1965 1948 1491 800 675 550 |
| Stocks, August 31tons 305 290 376 375 625 790 Arrivals, September 2100 2230 1565 710 600 460 Aggregating 2405 2520 1941 1085 1225 1250 Deliveries, September 1965 1948 1491 800 675 550 |
| Arrivals, September 2100 2230 1565 710 600 4600 Aggregating 2405 2520 1941 1085 1225 1250 Deliveries, September 1965 1948 1491 800 675 550 |
| Aggregating |
| |
| Stanks September on the sea of the sea |
| Stocks, September 30 440 572 450 285 550 700 |
| 1908. 1907. 1906. |
| World's visible supply, September 30tons 1831 2383 1876 |
| Pará receipts, July 1 to September 30 4870 4720 2865 |
| Pará receipts of Caucho, same dates 840 610 485 |
| Afloat from Pará to United States, Sept. 30 1060 383 218 Afloat from Pará to Europe, Sept. 30 920 705 415 |
| London Auctions. |

London Auctions

OCTOBER 2.—At to-day's auction about 34½ tons Straits and 19 tons Ceylon plantation were offered and for the most part sold. This rubber was in good demand and sold well, generally at higher prices. Rosehaugh crepe sold up to 45. 8¼d. [=\$1.14], and 5 cases Warriapolla biscuits at 45. 11d. [=\$1.192-3]. Fine hard Pará brought 45. 3½d. [=\$1.04½] per pound.

October 16.—About 35 tons Straits rubber and 7½ tons Ceylon were offered at to-day's auctions and practically all sold, with good competition. The average price for sheets and biscuits was 4s. 8½ d. [=\$1.14½]; crepes met a good demand and very fine lots realized up to 5s. [=\$1.212-3]; brown and dark sold well; scrap also a little dearer. Fine Pará sold up to 4s. 5½d. [=\$1.08½].

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street) ad-

"While there is no special change in general money market conditions since my report for September, and rubber paper is still selling at 41/2@5 per cent. for the best names and 51/2@6 per cent. for those not so well known, there is rather less demand, as some banks are dropping out of the market, and a tendency towards firmer rates."

NEW YORK PRICES FOR SEPTEMBER (NEW RUBBER).

| 771 | 4 | 1908. | 1907. | 1906. |
|----------|--------|----------|-----------|-----------|
| Upriver, | fine | .96-1.03 | 1.06-1.10 | 1.22-1.24 |
| Upriver, | coarse | .6973 | .8890 | .9294 |
| | fine | .9096 | .99-1.05 | 1.18-1.20 |
| Islands, | coarse | .4448 | .5860 | .6669 |
| Cametá | | .5153 | .6266 | .6870 |

Rubber Receipts at Manaos.

DURING September and three months of the crop season for three years [courtesy of Messrs, Scholz & Co.1:

| _ | | SEPTEMBE | R. | | Y-SEPTEM | DER. |
|---|---|--|---|--|--|--|
| From Rio Purús-Acretons Rio Madeira Rio Juruá Rio Javary-Iquitos Rio Solimoes | 1908. 698 280 269 264 51 | 1907. 447 358 187 278 113 | 1906. 202 370 173 392 54 | 1908. 1,402 871 418 428 101 | 1907. 1,155 840 309 526 186 | 1906. 987 904 328 541 116 |
| Rio Negro | | 0.00 | 4 | | X | 4 |
| Caucho | 1,562 | 1,383 | 1,195 | 3,220 628 | 3,017 562 | 2,880 475 |
| Total | 1,771 | 1,612 | 1.433 | 3.848 | 3,579 | 3,355 |

Liverpool.

WILLIAM WRIGHT & Co. report [October 1]:

Fine Pará.—There has been a strong demand at generally advancing prices throughout the month, and values at the close are fully 3d. per pound dearer. America has again taken a considerable quantity from this market, and seems likely to take a still further quantity, and with small available supplies in the near future, added to the fact that European manufacturers, generally speaking, are short of stock, a further advance in values seems inevitable; later on, of course, with increased receipts prices will doubtless react, but not to any great extent, as there is a strong undercurrent of buying strength, and to-day anything offering under 4s. per pound would find eager buyers in quantity for any position. Closing value, Upriver 4s. 3½d. [= \$1.04%].

EDMUND SCHLUTER & Co. report [September 30]:

Pará grades have been in good demand throughout the month, and prices have gradually advanced. The opinion expressed in our last circular that prices of near delivery rubber might advance was correct, but the easier tendency for the more distant positions has not made itself felt yet. The

demand at present exceeds the previous estimates of requirements based on manufacturers' advices who reported poor business in Europe, and only moderately good in America. With increased requirements the chances of much of a reaction in prices becomes smaller; at the same time crop reports continue favorable, and at one time or other must tell on the markets—possibly in the not remote future.

THE WORLD'S VISIBLE SUPPLY OF PARA, SEPTEMBER 30.

| | 1908. | 1907. | 1906. | 1905. | 1904. | 1903. |
|--------------------|--------|--------|-------|-------|--------|-------|
| Tons | 3269 | 3276 | 2361 | 2302 | 1719 | 1870 |
| Prices, hard fine. | 4/31/2 | 4/41/2 | 5/1 | 5/6 | 4/93/2 | 4/8 |

Antwerp.

RUBBER STATISTICS FOR SEPTEMBER.

| DETAILS. Stocks, August 31. kilos Arrivals, in September Congo sorts Other sorts | 1908. 874,514 189,424 142,743 46,681 | 1907. 740,514 562,889 490,090 72,799 | 1906. 686,867 318,778 259,072 59,706 | 1905. 558,202 339,575 240,891 98,684 | 1904. 602,495 772,200 632,293 139,907 |
|--|--|--|--|--|---|
| Aggregating Sales in September | 1,063,938 | 1,303,403 584,398 | 1,005,645 438,962 | 897,777 | 1,374,695 570,213 |
| Stocks, September 30. | 654,161 | 719,005 | 566,683 | 566,735 | 804,482 |
| Arrivals since Jan. 1. Congo sorts Other sorts | 3,663,163 3,095,954 567,209 | 4,064,354 3,476,334 588,020 | 4,252,505 3,257,915 994,590 | 4,059,248 3,152,184 907,064 | 4,481,821 3,701,549 780,272 |
| Sales since Jan. 1 | 4,015,896 | 4,003,533 | 4,421,009 | 4,033,874 | 4,288,239 |

IMPORTS FROM PARA AT NEW YORK.

| [The Figur | es Indicate | e Weights | in Poun | ds.] | |
|-------------------------|-------------|------------|---------|----------|-----------|
| Остовек 9.—By the stea | mer Ceare | nse, from | Manãos | and Pará | |
| IMPORTERS. | Fine. | Medium. | Coarse. | Caucho. | TOTAL. |
| A. T. Morse & Co | 159,600 | 22,300 | 72,000 | = | 253,900 |
| General Rubber Co | 82,200 | 27,300 | 99,500 | 100= | 200,100 |
| New York Commercial Co. | | 22,600 | 71,700 | 8,200= | 176,400 |
| Poel & Arnold | 49,600 | 12,900 | 48,100 | 100== | 110,700 |
| Hagemeyer & Brunn | 38,900 | | 64,700 | = | 103,600 |
| Edmund Reeks & Co | 44,300 | 1,000 | 27,100 | 1,300= | 73,700 |
| C. P. dos Santos | 15,000 | 5,000 | 45,500 | 5,300 = | 70,800 |
| William E. Peck & Co | 4,300 | *** * * | 9,300 | *****= | 13,600 |
| Thomsen & Co | 200 | 200 | 200 | 1,600= | 2,200 |
| TOTAL | 468,000 | 91,300 | 438,100 | 16,600= | 1,014,000 |
| OCTOBER 23By the stea | mer Cuthi | bert, from | Manàos | and Pará | 1 |
| New York Commercial Co. | 467,300 | 93,800 | 109,600 | 43,200= | 713,900 |
| A. T. Morse & Co | 124,300 | 41,400 | 166,600 | = | 332,300 |
| Poel & Arnold | 172,000 | 16,700 | 65,600 | | 254,300 |
| General Rubber Co | 50,000 | 6,200 | 70,500 | 600= | 127,300 |
| Hagemeyer & Brunn | 52,700 | 1,300 | 64,500 | | 118,500 |
| C. P. dos Santos | 67,400 | 11,200 | 5,900 | 300= | 84,800 |
| Edmund Reeks & Co | 22,200 | 4,600 | 33,000 | = | 59,800 |
| William E. Peck & Co | 21,400 | | 27,100 | = | 48,500 |
| G. Amsinck & Co | 13,700 | 1,800 | 800 | 1,100= | 17,400 |
| L. Johnson & Co | 20,800 | 2,500 | 2,800 | 1,100= | 27,200 |
| TOTAL | 1,011,800 | 179,500 | 546,400 | 46,300= | 1,784,000 |

| PARA RUBBER VIA EUROPE. | OTHER NEW YORK ARRIVALS. | Oct. 3.—By the Lucania=Liverpool: Rubber Import Co |
|--|--|---|
| Pounds. Sept. 25.—By the Carmania=Liverpool: New York Commercial Co. (Fine) 25,000 Poel & Arnold (Fine) 20,000 | CENTRALS. Pounds. SEPT. 25.—By the Manzanillo=Tampico: New York Commercial Co*145,000 | Oct. 3.—By the Merida=Frontera; E. Steiger & Co |
| Poel & Arnold (Coarse) | Edward Maurer | Edward Maurer |
| SEPT. 26.—By the Waldersee—Hamburg: W. L. Gough Co. (Fine) | Kunhardt & Co | Oct. 5.—By the Finland = Antwerp: Poel & Arnold |
| General Rubber Co. (Fine) 22,500 Muller, Schall & Co. (Coarse) 11,500 Poel & Arnold (Caucho) 56,000 90,000 SEPT. 30.—By the Prest. Lincoln=Hamburg: Livesey & Co. (Coarse) | SEPT. 26.—By the Moniterey=Frontera: Harburger & Stack. | L. Johnson & Co. 13,500 Hirzel, Feltman & Co. 4,000 G. Amsinck & Co. 3,500 Meyer Hecht 1,500 Roldan & Van Sickle 1,500 Pablo Calvet Co. 1,000 25,000 |
| Poel & Arnold (Caucho) | SEPT. 26.—By the Acre=Pernambuco: A. D. Hitch & Co | Oct. 8.—By the Majestic=London: Edward Maurer |
| Poel & Arnold (Caucho) | SEPT. 20.—By the Colom=Colon: G. Amsinck & Co | Oct. 8.—By the Prins Willem=Colon: A. Santos & Co |
| W. L. Gough Co. (Fine) | A. Santos & Co | Oct. 8.—By El Siglo=Galveston: Continental-Mexican Rubber Co *55,000 |
| General Rubber Co. (Fine) | L. Johnson & Co | Oct. 8.—By the Verdi=Bahia: Poel & Arnold |
| Oct. 15.—By the Oceanic—London: Poel & Arnold (Cparse) | Edward Maurer *22,500 *77,500 Oct. 1.—By the Atrats=Colon: New York Commercial Co 7,500 Waldonado & Co 1,500 G. Amsinck & Co 1,500 | Oct. 9.—By the Sigismund = Colombia: G. Amsinck & Co. 3,000 Kunhardt & Co. 2,500 Mecke & Co. 2,000 I. Brandon & Bros. 1,500 Schloss Brothers 1,500 10,508 |
| General Rubber Co. (Fine) 56,000 | Eggers & Heinlein 1,000 11,500 | Schloss Thorners 11200 101200 |

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No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it DOES NOT BLOW UNDER CURE.

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WALPOLE VARNISH WORKS _
ELECTRIC PESSA ATTON LABORATOR

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



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CHARLES T. WILSON

MEXICAN (Guayule) RUBBER

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Guayule made from old, sun exposed shrub is dead, dirty and sticky, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has life, low percentage of resin and is practically clean.



has been on the market for several years and is known to be the best Guayule made as to life, strength, purity and low percentage of resin.

There is a large demand for a specially prepared Guayule, dry and ready for use, which we have met in



As this rubber is made exclusively from our high grade "Parra" Guayule, uniformity and absolute purity is guaranteed. No mixing in of cheap compounds to bring down the price. Durango rubber is nothing but Parra brand pure Guayule prepared so that anybody can use it.

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Sole Representative of the MADERO interests in Mexico, largest owners of Guayule

| Oct. 9.—By the Tojomo=Bolivar: G. Amsinck & Co | SEPT. 28.—By the St. Paul=London: Poel & Arnold | Oct. 19.—By the <i>Philadelphia</i> =London: A. T. Morse & Co |
|---|--|---|
| Oct. 9.—By the Allianca=Colon: | SEPT. 28.—By the Vaderland = Antwerp: | Oct. 19.—By the Schuylkill = Singapore: |
| L Brandon & Bros | Joseph Cantor 9,000 | Muller, Schall & Co 11,000 Otto Isenstein & Co 4,500 15,500 |
| Oct. 10By the Morro Castle = Vera Cruz: | SEPT. 29.—By the <i>Chicago</i> = Havre: A. T. Morse & Co | Oct. 20.—By the Minneapolis = London: A. T. Morse & Co |
| H. Marquardt & Co | SEPT. 30.—By the Prest. Lincoln = Hamburg: A. T. Morse & Co | George A. Alden & Co |
| E. Steiger & Co 500 5,000 | Poel & Arnold 5,000 16,000 Ост. 1.—Ву the <i>Adriatic</i> = Bordeaux: | *Denotes plantation rubber. |
| Oct. 12.—By the St. Lonis—London: W. L. Gough Co 5,500 | General Rubber Co | GUTTA-JELUTONG. OCT. 16.—By the Montrose = Singapore: |
| Oct. 12.—By the Yumuri=Tampico: | Oct. 1.—By the Umbria=Liverpool; Poel & Arnold | Poel & Arnold |
| dward Maurer | Livesey & Co 3,500 14,500 Ост. 3.—By the <i>Cedric</i> =Liverpool: | Oct. 10.—By the Schuylkill=Singapore: |
| Oct 12 -Ry the Zeeland -Autworn | General Rubber Co | Heabler & Co 165,000 George A. Alden & Co 55,000 220,000 |
| Poel & Arnold *22,500 Ocr. 13.—By El Dia=Galveston: | Oct. 3.—By the Lucania=Liverpool: Muller, Schall & Co 15,000 | GUTTA-PERCHA. POUNDS. |
| Oct. 14.—By the Zulia Maracaibo: | George A. Alden & Co 11,000 | Ocr. 16.—By the Montrose = Singapore: Otto Isenstein & Co |
| Oct. 14.—By the Zulia=Maracaibo: R. de Gallego & Co | Joseph Cantor 5,000 31,000 Ост. 5.—By the Finland—Antwerp: | Oct. 17.—By the Pennsylvania=Hamburg: Robert Soltau Co |
| Oct. 14.—By the Sibiria = Colon: New York Commercial Co 10,000 | George A. Alden & Co 102,000 Poel & Arnold 19,000 Rubber Trading Co 3,500 124,500 | Oct. 19.—By the Schuylkill=Singapore: Heabler & Co |
| G. Amsinck & Co | Oct. 7.—By the President Grant=Hamburg: | George A. Alden & Co 5,000 27,500 |
| L Brandon & Bros | George A. Alden Co | BALATA. SEPT. 28.—By the Guiana=Demerara: |
| Oct. 15.—By El Valle=Galveston: Continental-Mexican Rubber Co *45,000 | Muller, Schall & Co 2,000 46,000 | George A. Alden & Co 11,500 Frame & Co 5,500 |
| Continental-Mexican Rubber Co *45,000 Mercer Rubber Co | Oct. 8.—By the Caronia=Liverpool: George A. Alden & Co 22,500 A. T. Morse & Co 9,000 | Middleton & Co 5,000 22,000 |
| Smithers Nordenholt Co | Muller, Schall & Co | Oct. 7.—By the Swriname = Demerara: George A. Alden & Co 9,000 Middleton & Co 4,500 |
| Oct. 17.—By the Mexico=Frontera: | Oct. 9.—By the California=Bordeaux: General Rubber Co | Oct. 9.—By the Tojomo = Belivar: G. Amsinck & Co |
| Harburger & Stack | Robinson & Co | American Trading Co 5,500 For Europe 550,000 561,500 |
| Graham, Hinkley & Co 1,000 5,000 | Oct 12 - Ry the Zeeland - Antwern | Oct. 12.—By the Korona = Demerara: George A. Alden & Co |
| Oct. 20.—By El Norte=Galveston: Continental-Mexican Rubber Co. 55,000 | A. T. Morse & Co | Oct. 20.—By the Coppename=Demerara: George A. Alden & Co |
| Oct. 21.—By the Prins Joachem—Colon: | Joseph Cantor | _ |
| A. Rosenthal's Sons | Oct. 15.—By the Oceanic=London: Livesey & Co | CUSTOM HOUSE STATISTICS. |
| Oct. 21.—By El Cid=Galveston: | Robinson & Co | Port of New York—September. Imports: Pounds. Values. |
| Continental-Mexican Rubber Co *55,000 | General Rubber Co | India-rubber 4,933,695 \$2,898,738 Balata 125,545 53,814 Gutta-percha 8,272 4,790 |
| *This sign, in connection with imports of Cen- rals, denotes Guayule rubber. | Oct. 17.—By the Celtic=Liverpool: | Gutta-percha |
| AFRICANS. Pounds. | A. T. Morse & Co | Total 6,172,302 \$2,993,772 |
| SEPT. 24.—By the Teutonic=Liverpool: General Rubber Co | Ост. 20.—By the Kroonland=Antwerp: | Exports: India-rubber |
| SEPT. 25.—By the Baltic=Lisbon: ieneral Rubber Co | A. T. Morse & Co | Reclaimed rubber 100,063 11,745 |
| SEPT. 25.—By the Carmania = Liverpool: | EAST INDIAN. POUNDS. SEPT. 28.—By the Minnetonka=London: | Rubber scrap imported 636,558 \$52,159 |
| Poel & Arnold | A. T. Morse & Co | BOSTON ARRIVALS. |
| SEPT. 26.—By the Waldersee=Hamburg: coel & Arnold | Robinson & Co | Pounds. |
| eneral Rubber Co | Ocr. 3.—By the New York=London: A. T. Morse & Co | SEPT. 23.—By the Indrasamba=Singapore: State Rubber Co., East Indian 2,500 Heabler & Co., Ielutong 55,000 |
| V. L. Gough Co | Oct. 6.—By the Mesaba=London: Rubber Trading Co | Heahler & Co., Jelutong 55,000 W. L. Geugh Co., Jelutong 20,000 George A. Alden & Co., Jelutong. 130,000 207,500 |
| SEPT. 26.—By the Campania=Liverpool: A. T. Morse & Co 9,000 | Oct. 12By the Minnehaha=London: | SEPT. 26.—By the Sylvania=Liverpool: |
| | | |
| Muller, Schall & Co | Muller, Schall & Co | Poel & Arnold, Africans 5,600 28,100 SEPT. 28.—By the Sachem=Liverpool: |

PARA EXPORTS OF INDIA-RUBBER, SEPTEMBER, 1908 (IN KILOGRAMS).

| NEW | YORK. | | | | | | | EUROPE | | | |
|--|--|---|--|-----------------------------|---|--|---|--|--|---|--|
| EXPORTERS. Schrader, Gruner & Co. Gordon & Co. J. Marques & Co. E. Pinto Alves & Co. Scholz, Hartje & Co. Adelbert H. Alden. Pires, Teixpira & Co. De Lagotellerie & Co. Sundries Itacoatiara, direct Manàos, direct Iquitos, direct | 75,584 36,550 38,760 30,192 16,830 12,240 7,140 321,749 | Medium. 3,400 9,494 3,060 1,700 7,780 6,380 2,380 | Coarse. 29,370 116,365 40,920 46,200 23,275 35,387 15,840 35,640 | 660 5,473 2,640 | TOTAL. 40,760 201,443 81,190 86,660 61,247 64,070 28,080 47,800 | Fine. 70,550 4,080 42,160 44,200 73,230 56,006 20,400 3,870 279,687 74,330 | Medium. 9,419 1,360 4,930 6,901 13,260 42,153 4,009 | Coarse. 24,584 28,050 24,090 5,940 11,880 9,570 3,125 42,932 21,000 | Cauche. 339 3,751 4,950 1,521 87,584 107,085 | TOTAL. 104,883 9,191 75,140 68,290 86,071 81,146 29,970 4,950 8,516 452,356 206,424 | TOTAL. 145.643 210.634 156.330 154.950 147.318 145.216 58.050 47.800 4.950 8.516 936,449 206,424 |
| Total, September Total, August Total, July | 264,560 | 113,001 58,192 77,885 | 402,493 453,971 343,954 | 32,784 35,035 109,439 | 1,095,313 811,758 834,743 | 668,513 502,857 337,645 | 82,032 64,119 33,166 | 171,171 75,252 107,931 | 305,221 361,418 149,003 | 1,126,937 1,003,646 627,745 | 2,222,250 1,815,404 1,462,488 |



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Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for carload lots, per pound—show a slight advance, as compared with last month:

| Total Statement | 4 | |
|---------------------------------------|---|------------|
| Old rubber boots and shoes—domestic | | |
| Pneumatic bicycle tires | | 6 @ 61/2 |
| Automobile tires | | |
| Solid rubber wagon and carriage tires | | |
| White trimmed rubber | | |
| Heavy black rubber | | |
| Air brake hose | | 33/4@ 4 |
| Garden hose | | |
| Fire and large hose | | 23/4@ 15/8 |
| Matting | | 11/2@ 15/8 |

PLANTING RESULTS IN SUMATRA.

THE first annual report of The Sumatra Pará Rubber Plantations, Limited, for the year ended June 30, 1908, presented at the meeting in London, October 2, mentioned that the rubber crop had amounted to 62,700 pounds, and the net average price realized, 3s. 4.51d. [= about 82.1 cents] per pound. The cost of producing rubber was 1s. 1.87d. [= about 28.1 cents] per pound. The number of trees tapped, planted between 1898 and 1905, was 26,577, making the average yield, for young and old trees, about 2.36 pounds per tree. The year's revenues from rubber amounted to £11,053 14s., and from coffee, £3,280 12s. The dividend was 10 per cent. on the outstanding capital, the disbursement amounting to \$34,065.50.

In recording these facts we happen to refer to the first mention of rubber-planting in Sumatra which ever appeared in THE INDIA RUBBER WORLD. It was a summary of an article in Gummi-Zeitung [August 20, 1897-page 18], in which the promise in the prospectus of a rubber planting company of an ultimate profit of 5 to 6 marks [=\$1.19 to \$1.43] per tree was seriously discounted by the German editor. From the figures given above, however, in the report of a plantation founded after the date of the Gummi-Zeitung's article, it would appear that the trees tapped, without reference to age, averaged 2,36 pounds of rubber, each, which realized 54 cents (gold) over the cost of collections, or an average profit of \$1.27 per tree, or 5.34 marks. This at least comes well within the limits of the early Sumatra prospectus, and no doubt the figures given would be largely exceeded if results were confined alone to the ten-year old trees tapped.

CONDITION OF "HEVEA" RUBBER IN JAVA.

THE appearance of indications of canker in Herea plantations in Java, has given rise to some alarm, and the Batavia Nieuwsblad has counseled the rooting up of the Herea rubber and its replacement with "rambong" (Ficus). The Sumatra Post, however, regards the situation less seriously, and quotes the manager of the United Serdang (Sumatra) Rubber Plantations' Co., as asserting that among their two and three-year old Hevea trees only 1 in 2,500 had any disease at all, and of these very few bore any marks of canker. Mr. Clarence Harrington writes to the Nicuresblad that on a tour of Deli, in Sumatra, he found no evidence of canker had been heard of there, and that many planters had uprooted their "rambong" rubber and put in Hevea. As for Java, he says that planters from the Straits and Ceylon, who have visited that island, have nothing but praise for the rubber plantations there. Such is the confidence of British capitalists in Java rubber that they have invested 20,000,000 guilders [=\$8,040,000] in that line of planting enterprise in the island.

The editor of the Ccylon Observer, in cabling to his paper his arrival in Java on a visit, added: "Java's rapid growth of rubber is wonderful."

The first annual report of Bantamsche Plantagen Maatschappij (the Bantam Plantation Co.), a Dutch company with head-quarters at The Hague, and plantations in the residency of Bantam, at the western end of Java, operated with a capital of 1,000,000 florins [=\$403,000], shows standing at the end of May last, 99.313 Hevea trees and 1,267 Ficus elastica. One of the directors, Dr. A. G. N. Swart, was the president of the Netherlands Commission at the recent London Rubber Exhibition.

SPEAKING of tires, it must not be assumed that automobiles are the whole thing in swelling the demand for rubber. Not to go further, there are "go carts"—more go carts than motor cars. The advertisement of a single store in a New York newspaper, in a corner devoted to go carts mentions numerous styles, at a wide range of prices, and each is described as being rubber tired, but more than that, several descriptions of tires appear. There are baby carriages to suit every purse, but all with some kind of rubber equipment.

